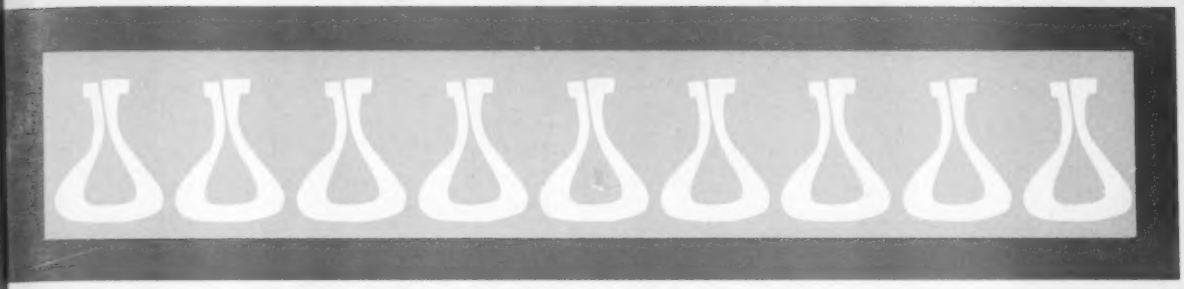

THE NATIONAL CLEARINGHOUSE FOR MENTAL HEALTH INFORMATION

Section B

VOL. 10, NO. 3 MARCH 1971

PSYCHOPHARMACOLOGY ABSTRACTS

NATIONAL INSTITUTE OF MENTAL HEALTH

PSYCHOPHARMACOLOGY ABSTRACTS is a publication of the National Clearinghouse for Mental Health Information of the National Institute of Mental Health. It is a specialized information medium designed to assist the Institute in meeting its obligation to foster and support laboratory and clinical research into the nature and causes of mental disorders and methods of treatment and prevention. Specifically, this information service is designed to meet the needs of investigators in the field of psychopharmacology for rapid and comprehensive information about new developments and research results. For information or correspondence with the National Institute of Mental Health concerning Psychopharmacology Abstracts, changes of address, or removal of names from the mailing list see the inside back cover page.

Use of funds for printing this publication approved by the Director of the Office of Management and Budget, September 1, 1970.

ABSTRACTS

PRECLINICAL

01 CHEMICAL SYNTHESIS, ISOLATION AND CHARACTERIZATION

60633
AUTHORS: Barchas, Jack D.
ADDRESS: Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305
TITLE: Project Summary: Methanol-forming enzyme in mammalian brain.
SOURCEID: Final Report, NIMH Small Grant 15775.

This study was conducted in 6 major phases: 1) preparation of enzyme and assay procedure; 2) preliminary identification of the volatile product as methanol; 3) a study of the properties of the methanol forming enzyme (MFE); 4) studying the distribution of the methanol forming enzyme; 5) developmental studies; and 6) preliminary data leading toward future studies. MFE was measured in several animal species. The enzyme is present in the brains of calf, rabbit, rat and frog. Of great interest is the presence of small amounts of MFE activity in human cerebral cortex and of substantial activity in human diencephalon and pituitary. In the preliminary data presented substrate specificities are discussed of MFE, with some findings on hormone and endocrine relations and some studies using protein synthesis inhibitors.

62435
AUTHORS: Huitric, Alain C.
ADDRESS: University of Washington, Seattle, Washington
TITLE: Project Summary: Synthesis of potential psychotropic agents.
SOURCE: University of Washington; NIMH
SOURCEID: Began February 1, 1968. Completed August 31, 1969.

A research study of the synthesis of potential psychotropic agents is summarized. The compounds synthesized fall essentially into 3 classes: 1) trifunctional N,N-dimethyl-o-tolylcyclohexylamines, 2) cis- and trans-2-(3,4,5-trimethoxyphenyl)cyclohexylamines (mescaline analogs), 3) 4a,10b-cis- and trans- 1,2,3,4,4a,5,6,10b-octahydrophenanthridines (analogs of the Peyote alkaloid anhalinine). Compounds of class 1 showed only weak central nervous system (CNS) activity (mostly depressant) in mice, administered intraperitoneally as the hydrochloride salts. Certain quaternary salts showed weak antispasmodic effects on smooth muscles. No potential hallucinogenic activity could be detected with the mescaline analogs (class 2) in mice. Limited reports of preliminary testing of compounds of class 3 indicate CNS activity in mice at somewhat lower doses than for compounds of the other series, with higher stimulation for the trans than cis isomers. Additional studies include the investigation of an abnormal nucleophilic opening of trans-2,3-epoxy-trans-6-o-tolylcyclohexyl benzoate; an nucleomagnetic resonance (NMR) study of rates of isomerization of salts of N-methyl derivatives of compounds in class 3; and an NMR demonstration of the trapping of carbonium ion intermediates by pyridine of Beckman rearrangement and fission of 2-arylcyclohexanone oxime tosylates. (Author abstract modified)

63526
AUTHORS: Margolis, Richard U.
ADDRESS: Department of Pharmacology, New York University School of Medicine, 550 First Avenue, New York, N. Y. 10016
TITLE: Project Summary: Mucopolysaccharide composition of rat and rabbit brain.
SOURCE: NIMH.

In the area covered by this grant, progress has been made in several areas related to the study of mucopolysaccharides in brain. Methods have been perfected for the separation and analysis of small quantities of acid mucopolysaccharides from rat and rabbit brain. In the course of this work 2 unexpected findings are encountered. One

incidental observation was that testicular hyaluronidase preparations, which are commonly used in biochemical and histochemical studies for the identification of certain acid mucopolysaccharides, have significant amounts of contaminating RNase and DNase activity even after purification to very high specific activities. The presence of RNase and DNase in all hyaluronidase preparations examined would suggest that certain earlier psychological and histochemical studies on acid mucopolysaccharides, including those in nervous tissue, may require reevaluation. The second unexpected finding arising in this case from studies of the metabolism of sulfated mucopolysaccharides, was that brain also contains sulfated glycoproteins which are distinct in structure and composition from any of the known classes of acid mucopolysaccharides. Finally, certain preliminary metabolic experiments have been conducted to determine the turnover rates of sulfate in the sulfated mucopolysaccharides of brain. It was found that bacterial mucopolysaccharideses were very useful in studying the turnover of the different isomers of chondroitin sulfate. The sulfate groups in all of these compounds, and also those in heparin sulfate, have somewhat different turnover rates in young rat brain. Further studies on the turnover of the carbon backbone of the sulfated mucopolysaccharides and of hyaluronic acid are currently in progress.

58971
AUTHORS: No author.
ADDRESS: Author address not given
TITLE: United States procedures for screening drugs: testing for dependence liability in animals and man.
SOURCE: Bulletin on Narcotics.
SOURCEID: 22(1):11-17, 1970.

The Committee on Problems of Drug Dependence of the National Academy of Science - National Research Council assists in the determination of drug dependence properties and abuse liability of new substances which act on the central nervous system and are potential medicinal agents. It supports screening programs in animals, reviews data on new compounds with a view to recommending tests in man, and advises on initiation of narcotics control procedures when required. Morphine-like compounds are tested for single dose suppression of abstinence symptoms in morphine -dependent monkeys or for the ability of a drug to produce physical dependence in nondependent monkeys. Antagonistic properties may also be tested on morphine - dependent monkeys. Tests with dogs on barbiturate-like agents are of approximately the same type as with monkeys. Morphine-like drugs are tested in man, when appropriate, using volunteers who are serving sentences for violation of narcotics laws. New drugs are tested for effect and toxicity, ability to substitute for morphine and ability to cause primary physical dependence. Programs for testing psychic dependence properties in the monkey and dependence and abuse liability of barbiturate-like or amphetamine-like drugs in man are not yet available.

62322
AUTHORS: Heindel, Ned D.; Schaeffer, Lee A.
ADDRESS: Department of Chemistry, Lehigh University, Bethlehem, Pennsylvania 18015
TITLE: A new class of 1,3-benzoxazinones as potential central nervous system agents.
SOURCE: Journal of Medicinal Chemistry.
SOURCEID: 13:981-983, 1970.

A new class of 1,3-benzoxazinones were synthesized and tested for biological activity as potential central nervous system agents. Seven compounds were prepared by combining the appropriate o-hydroxyamide, sodium methoxide, anhydrous methanol and dimethyl acetylenedicarboxylate. The 1,3-benzoxazinones were evaluated for neuropharmacological activity in a modified Irwin mouse profile. The most significant activity was observed in the halogenated benzoxazinones. Although the parent triiodosalicylanilide was exceedingly toxic (estimated LD50 of 75mg/kg), it did exhibit significant depression and reduction of spontaneous motor activity at doses as low as 30mg/kg. The corresponding triiodobenzoxazine was considerably less toxic, no deaths occurred at 30mg/kg, and at this concentration the compounds displayed depression of alertness, reactivity, spontaneous motor activity and muscle tone. The methods of synthesis, yields and physical properties are presented for the 7 compounds. 12 references.

58986
AUTHORS: Von Voigtlander, P. F.; Moore, K. E.
ADDRESS: Dept. of Pharmacology, Michigan State University, East Lansing, Michigan 48823
TITLE: Behavioral and brain catecholamine depleting actions of U-14,624, an inhibitor of dopamine beta-hydroxylase.
SOURCE: Proceedings of the Society for Experimental Biology and Medicine.
SOURCEID: 133(3):817-820, 1970.

The effects of U-14,624 (1-phenyl-3-(2-thiazolyl)-2-thiourea), an inhibitor of dopamine beta-hydroxylase, on spontaneous locomotor activity and on the brain concentrations of catecholamines, were studied in male albino mice. Intraperitoneal administration of U-14,624 caused a dose dependent increase in the brain content of dopamine and a decrease in the brain content of norepinephrine; the latter effect was temporarily related to the depression of spontaneous locomotor activity. When administered orally, U-14,624 depleted brain norepinephrine but was somewhat less effective in depressing motor activity. When added to the diet for 24 hrs, it effectively lowered the brain norepinephrine content without altering motor activity. Selective depletion of brain norepinephrine does not in itself decrease spontaneous locomotor activity. 10 references. (author abstract modified)

58988
AUTHORS: Nichols, H. E.; Patterson, C. S.; Walaszek, E. J.
ADDRESS: Department of Pharmacology, University of Kansas Medical Center, Kansas City, Kansas 66103
TITLE: The effects of some psychoactive drugs on rat brain adenosine triphosphate levels.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(1):19-26, 1970.

Experiments conducted to evaluate the effects of psychoactive drugs on rat brain ATP (adenosine triphosphate) are described. Methamphetamine, over a wide range of doses, caused no significant alteration in the cerebral ATP levels in rats, and caffeine induced no significant change in rat brain ATP concentrations. However, the 2 catatonia inducing drugs, bulbocapnine and morphine, produced a significant rise in brain ATP at a time when maximal catatonia was present. 30 references. (author abstract modified)

58989
AUTHORS: Chernov, H. I.; Wilson, D. E.; Partyka, D. A.; Bernard, P. S.; Huebner, C. F.
ADDRESS: Research Department, CIBA Pharmaceutical Company, Summit, New Jersey
TITLE: Pharmacological properties of Su-19789B, a unique central nervous system stimulant.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(1):34-44, 1970.

The most widely used stimulants of the central nervous system are the cerebral or psychic type, particularly the piperidine derivatives and related compounds. Clinically, drugs of this type, such as methylphenidate, can elevate mood without producing an increase in motor activity. These compounds may act through a release of stored catecholamines. The stimulant properties of a new compound, 2-(p-methoxy-alpha-(1-piperidyl)-benzyl)-cyclohexanol cyclohexane sulfamate (Su-19789B) are described. This drug produces an increase in spontaneous motor activity with little or no concomitant effect on other parameters. The major sites of action suggested for Su- 19789B are the spinal cord and the neuromuscular junction. It may act through a release of catecholamines from

peripheral sites other than the adrenal glands. 24 references.

58990
AUTHORS: Mitoma, C.
ADDRESS: Dept. of Biomedical Research, Stanford Research Institute, Menlo Park, California 94025
TITLE: Response to drugs by rats showing long or short hexobarbital-induced sleep.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(1):124-128, 1970.

Reference is made to a previous communication reporting that the drug metabolizing activities of the hepatic postmitochondrial supernatant fraction from short sleepers were greater than those from long sleepers in rats. The enzymatic activities of these rats were assessed in vitro using acetanilide, ortho-nitroanisole, aminopyrine and hexobarbital as substrates. In confirmation of the in vitro data, rats that showed a longer lasting response to hexobarbital also exhibited longer lasting responses to zoxazolamine and methyprylon and were more sensitive to strychnine toxicity than rats exhibiting a shorter response to hexobarbital. 9 references.

58994
AUTHORS: Howes, J. F.; Harris, L. S.; Dewey, W. L.
ADDRESS: Dept. of Pharmacology, School of Medicine, University of North Carolina, Chapel Hill, North Carolina 27514
TITLE: The effect of morphine, nalorphine, naloxone, pentazocine, cyclazocine and oxotremorine on the synthesis and release of acetylcholine by mouse cerebral cortex slices in vitro.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(2):267-276, 1970.

On the basis that there may be a cholinergic component of analgesia as measured by inhibition of the tail-flick reflex in mice, a study of the effects of various agents on levels of acetylcholine in the brains of mice is presented. Morphine, nalorphine, naloxone and pentazocine all decreased the synthesis, whereas cyclazocine and oxotremorine increased the synthesis of acetylcholine in mouse brain slices in vitro. Nalorphine and cyclazocine had a biphasic effect inhibiting initially, but subsequently stimulating the disappearance of glucose and the production of lactic acid. 18 references. (author abstract modified)

58995
AUTHORS: Singh, J. M.; Trahan, P.; Liljeberg, J. A.
ADDRESS: Dept. of Pharmacology, Xavier University of Louisiana, College of Pharmacy, New Orleans, Louisiana
TITLE: The reversal of developed tolerance to pentobarbital by ethyl alcohol.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(2):334-342, 1970.

During the development of tolerance to pentobarbital in rats, a significant hypothermia is produced. The developed tolerance to pentobarbital, 30mg/kg, decreased the hypnotic effect on subsequent administration, but was reversed by 1.495 and 2.243g/kg of ethyl alcohol when administered rectally. However, 0.373g/kg of ethyl alcohol partially reversed the developed tolerance to pentobarbital. When ethyl alcohol (1.495 g/kg) was administered to nontolerant rats it was also able to reverse the developed tolerance to pentobarbital. It is accordingly suggested that developed tolerance to pentobarbital can be reversed by certain doses of ethyl alcohol. 13 references. (author abstract modified)

59033
AUTHORS: Butcher, L.; Engel, J.; Fuxe, K.
ADDRESS: Department of Pharmacology, University of Goteborg, 400 33 Goteborg 33, Sweden
TITLE: L-Dopa induced changes in central monoamine neurons after peripheral decarboxylase inhibition.
SOURCE: Journal of Pharmacy and Pharmacology (London).
SOURCEID: 22(4):313-315, 1970.

The L-dopa induced changes in central monoamine neurons after extracerebral decarboxylase inhibition by Ro4-4602 (N-(DL-seryl)-N-(2,3,4-trihydroxybenzyl)hydrazine) were measured in rats using histochemical fluorescence techniques. There was a dose dependent increase in fluorescence intensity of the catecholamine cell body groups of the mesencephalon, in the dopamine cell body groups of the zona compacta, the pars lateralis and the zona reticulata of the substantia nigra, and in the mesencephalic reticular formation and the arcuate nucleus. A dose dependent increase in fluorescence intensity was also seen in the nigroneostriatal dopamine fibers and in the dopamine nerve terminal systems. No increase in fluorescence intensity was observed in the noradrenaline cell bodies of the medulla oblongata or pons; however, the central 5-hydroxytryptamine cell bodies and nerve terminals showed medium to weak fluorescence activity. 14 references.

59622
AUTHORS: Treuting, John J.
ADDRESS: Department of Pathology, William Beaumont General Hospital, El Paso, Texas 79920
TITLE: The problem of pot: pharmacology and chemistry.
SOURCE: Southwestern Medicine.
SOURCEID: 51(8)166-169, 1970.

Fifteen cannabinoids have been isolated in pure form from the resin of Cannabis sativa. Among them are compounds of a mixture of stereoisomers known collectively as the tetrahydrocannabinols. Chemical formulae are presented and the pharmacological activity of some of the components of the Cannabis resin is discussed. Chemical changes occurring in the chemical components are illustrated and conditions causing variability in the cannabinoids are listed in this discussion of the pharmacology and chemistry of marihuana. 15 references.

60223
AUTHORS: Gabay, Sabit.
ADDRESS: Biochemical Research Laboratory, Veterans Administration Hospital, Brockton, Massachusetts 02401
TITLE: Project summary: a new assay procedure for aminotransferases. (Unpublished paper)
SOURCE: NIMH, 5454 Wisconsin Avenue, Chevy Chase, Maryland 20015.

A rapid and sensitive radiometric assay to measure the activity of brain aromatic aminotransferases, based on semimicro cation exchange paper chromatography to separate 14C-2-oxoglutaric acid, had been instituted. Its sensitivity, specificity and broad flexibility constitute some of the principal advantages over the existing procedures. The stochiometry of the reaction indicated a 1:2 relationship between the amount of phenylpyruvic and glutamic acid formed over a 2 hour interval. With this convenient assay procedure, the effects of dicarboxylic acids on the activity of brain phenylalanine aminotransferase were investigated, both as to the mechanism of action and specificity of the amino group acceptor of purified pig brain phenylalanine oxoglutarate aminotransferases. 5 references. (Author abstract)

60636
AUTHORS: Trafton, Clinton L.
ADDRESS: Dept. of Psychology, University of Arizona, Tucson,

Arizona 85721
TITLE: Project Summary: Limbic system lesions and drug addiction.
SOURCEID: Final Report, NIMH Grant 15668.

Groups of rats were given bilateral septal area or cingulate cortex lesions and then subjected to a regimen previously shown to produce drug addiction in animals. The addiction was indexed by a learned preference for a bitter, morphine HCl solution. The subjects were also tested for relapse following 2 wk. withdrawal of drugs. Bilateral anterior cingulate cortex lesions resulted in a decrement in both the acquisition and retention (relapse) of drug oriented behavior. Bilateral septal lesions produced no changes in addiction behavior. 9 references. (Author abstract)

60637
AUTHORS: Kastritsis, Costas D.
ADDRESS: University of Texas, (Southwestern) Medical School at Dallas, Dallas, Texas 75235
TITLE: Project Summary: On the investigation of the genetic effects of lysergic acid diethylamide and related compounds.
SOURCEID: Final Report, NIMH Grant 15743.

A test was made of various doses of lysergic acid diethylamide (LSD-25) on Drosophila and subsequent examination of the treated individuals was carried out for chromosomal abnormalities or other effects. Due to the difficulties in obtaining LSD-25 original experiments were modified to use lysergic acid, and bromolysergic acid diethylamide. Once these experiments were concluded, LSD-25 was obtained from NIMH and experimentation was completed. The experiments utilizing adults showed no significant differences between the experimental and control groups either in egg-to-adult viability or egg laying capacity. Whether this is due to the different dosages applied or due to the adult condition of the exposed organs could not be determined.

60856
AUTHORS: Schmidt, M. J.; Palmer, E. C.; Dettbarn, W. D.; Robison, G. A.
ADDRESS: Psychopharmacology Research Center, Central State Hospital, Nashville, Tennessee 37217
TITLE: Cyclic AMP and adenyl/cyclase in the developing rat brain.
SOURCE: Developmental Psychobiology.
SOURCEID: 3(1):53-67, 1970.

The level of endogenous adenosine 3', 5'-monophosphate (cyclic AMP) in the rat brain in vivo began to increase markedly between the third and sixth days after birth, as did the ability of norepinephrine to stimulate the formation of cyclic AMP in brain tissue in vitro. Adenyl cyclase activity in broken cell preparations, when measured in the absence of sodium fluoride, increased with age up to a point, but began to decline between the fifth and ninth days postpartum. Activity continued to increase when measured in the presence of fluoride, suggesting that the apparent stimulatory effect of this ion may in fact be the reversal of an inhibitory influence which is absent or almost absent at birth. Cyclase activity at all ages was restricted to particulate matter, whereas apparent phosphodiesterase activity was present in particulate as well as soluble fractions. The catabolic system for cyclic AMP developed in a similar manner in both fractions. Theophylline produced the same degree of inhibition of this system at all ages. 42 references, (Author abstract)

60857
AUTHORS: Borgen, Lowell A.; Khalsa, J. H.; King, William T.; Davis, W. Marvin.
ADDRESS: University of Mississippi School of Pharmacy, University, Mississippi 38677

TITLE: Strain differences in morphine-withdrawal-induced aggression in rats.
SOURCE: Psychonomic Science.
SOURCEID: 21(1):35-36, 1970.

Withdrawal of morphine from physically dependent rats has been shown in earlier experiments to lead to the occurrence of fighting behavior in male Sprague-Dawley rats. The previous studies are replicated and extended to determine whether or not the occurrence of this response might differ among the 3 most commonly used strains of rats. Male rats (housed 6/cage) of the strains--Sprague-Dawley, Wistar, and Long-Evans were given intraperitoneal injections of morphine sulfate in dosages increasing over a 15 day period to a terminal dose of 405mg/kg/day. Groups of 6 from each strain received saline control injections. Approximately 50 h after the last injection, significant increases in fighting behavior were observed in the Long-Evans and Wistar strains, the Long-Evans rats showing the most aggression. The fighting continued for about 40 h and then subsided to control levels. The Sprague-Dawley rats receiving morphine showed no significant increase in aggressiveness over placebo injected animals. 7 references. (Author abstract modified)

60865
AUTHORS: Kobayashi, Kenichi; Eiduson, Samuel.
ADDRESS: Department of Neuropsychiatry, Tokyo Medical and Dental University, 1-5-45, Yshima, Bunkyo-Ku, Tokyo, Japan
TITLE: Norepinephrine and dopamine in the developing chick brain.
SOURCE: Developmental Psychobiology.
SOURCEID: 3(1):13-34, 1970.

Appearance, concentration, and distribution of catecholamines, dopamine (DA) and norepinephrine (NE), in embryonic and postnatal chick brain regions were studied. The highest amount of DA was found in cerebral hemispheres and increased gradually to adult levels, whereas in other parts of the brain the concentrations of DA fluctuated during the post-hatch period. The remainder contained the largest amount of NE, whereas the cerebral hemispheres contained relatively small amount of NE. Relatively high amounts of NE were found in the cerebellum. A single dose of L-3,4-dihydroxyphenylalanine (DOPA) injected into the 3-day-old embryo had no significant effect upon the levels of DA and NE either in the embryonic stages or in the postnatal period. In the 7-day-old chick, combined treatment of JB-516 (Catron) and L-DOPA induced about a 10-fold and 2-fold increase of the brain level of DA and NE respectively about 30 min after injection, and these levels decreased rather rapidly within 2 hr. A group of chicks injected with DOPA at the 3-day-old embryonic stage and a group injected with saline were exposed 1 month posthatch to 3 visual discrimination tasks. There was no significant difference in the performance between these 2 groups. 28 references. (Author abstract)

60871
AUTHORS: Ashton, Alan; Gandelman, Ronald J.; Trowill, Jay A.
ADDRESS: Department of Psychology, Saginaw Valley College, University Center, Michigan 48710
TITLE: Effects of reinforcement shifts upon subsequent sucrose consumption.
SOURCE: Psychonomic Science.
SOURCEID: 21(1):7-8, 1970.

Previous investigations involving saccharin drinking in rats observed immediate and durable elation effects following temporary shifts to water. It was desired to extend the paradigm to sucrose as the reward. The hypothesis was that the animals in the previous experiments were responding only to the taste stimulus (nondeprived animals drinking a nonnutritive solution) and that sucrose solutions would give comparable results. The hypothesis was not supported. Elation of sucrose consumption was not observed among male or female rats following a temporary shift to water. These data are contrary

to earlier work which employed saccharin as the reward. 4 references. (Author abstract modified)

61572
AUTHORS: Lovett, D.; Booth, D. A.
ADDRESS: Laboratory of Experimental Psychology, University of Sussex, Sussex, England
TITLE: Four effects of exogenous insulin on food intake.
SOURCE: Quarterly Journal of Experimental Psychology (Cambridge, England).
SOURCEID: 22:406-419, 1970.

Exogenous insulin has been determined to have 4 effects on the food intake of rats. After a subcutaneous injection of bovine insulin into the rat, at first there is an augmentation of the satiety produced by nutrients eaten immediately before injection. Later, with large enough doses, as has been commonly observed, feeding is elicited -- perhaps simply by hastening the passage of satiety. A third type of effect is behavioraldisruption, reducing food and water intake when food is withheld for an hour after injection and producing postural changes even when food is present. Fourth, repeated pairing of insulin injection with intake of water of a particular flavor (even when drunk over half an hour beforehand) depresses subsequent intake of water having that flavor, whether presented alone or together with water of another flavor, which has been paired with control injections. The acquired discriminated intake change involves the initial acceptability of the flavor but changes in the inhibition of acceptability during an intake bout have not been excluded. 26 references. (Author abstract modified)

62327
AUTHORS: Black, Ira B.; Axelrod, Julius.
ADDRESS: Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014
TITLE: Biphasic effect of norepinephrine in the regulation of hepatic tyrosine transaminase activity.
SOURCE: Archives of Biochemistry and Biophysics.
SOURCEID: 138(2):614-619, 1970.

Norepinephrine injection is associated with a biphasic response of hepatic tyrosine transaminase (tyrosine aminotransferase L-tyrosine: 2-oxoglutarate aminotransferase EC 2.6.1.5): activity in the adrenalectomized and hypophysectomized rat. After an initial increase, enzyme activity falls below control levels. The increase in tyrosine transaminase activity is blocked by cycloheximide but not actinomycin D, ergotamine tartrate, or propranolol. Depression of tyrosine transaminase activity by norepinephrine is maximal at night when enzyme activity normally rises to peak levels, resulting in a suppression of the circadian enzyme rhythm. The decreased activity at night occurs without prior induction, indicating independence of the 2 effects of norephinephrine. Evidence suggesting that norepinephrine depresses tyrosine transaminase activity by competing with apoenzyme for the pyridoxal-5'-phosphate cofactor is presented. These observations indicate that a regulator molecule may have multiple effects on an enzyme system varying not only with dosage but with time of administration. 18 references. (Author abstract)

62805
AUTHORS: Strada, S. J.; Sanders-Bush, E.; Sulser, F.
ADDRESS: Psychopharmacology Research Center, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee
TITLE: p-Chloroamphetamine: temporal relationship between psychomotor stimulation and metabolism of brain norepinephrine.
SOURCE: Biochemical Pharmacology.
SOURCEID: 19:2621-2629, 1970.

The temporal relationship between psychomotor stimulation and metabolism of brain norepinephrine has been studied. Unlike amphetamine, p-chloramphetamine causes a decrease in cerebral serotonin (5HT) in rats. This effect on 5HT metabolism persists after the psychomotor stimulation has subsided. Like amphetamine, however, p-choloramphetamine exerts a marked effect on the metabolism of intraventricularly administered 3H-norepinephrine during the period of psychomotor stimulation. Thus, it markedly increases the level of 3H-normetanephrine and decreases that of the tritiated deaminated catechol and the deaminated-O-methylated metabolites. Desipramine, which blocks the metabolism of amphetamine, prolongs both the pharmacological and biochemical effects caused by amphetamine. It is concluded that the psychomotor stimulation elicited by p-chloroamphetamine, like that ofamphetamine, is associated with changes in the metabolism of brain norepinephrine and not of brain serotonin. 35 references. (Author abstract modified)

62853
AUTHORS: Conner, Robert L.; Stolk, Jon M.; Barchas, Jack D.; Dement, William C.; Levine, Seymour.
ADDRESS: Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305
TITLE: The effect of parachlorophenylalanine (PCPA) on shock-induced fighting behavior in rats.
SOURCE: Physiology and Behavior (London).
SOURCEID: 5(11):1221-1224, 1970.

Shock induced fighting behavior was studied in rats treated with parachlorophenylalanine (PCPA). In the doses used, PCPA injections depleted brain serotonin to 10% of the control animal levels. In the first study, injections were started prior to initial behavioral testing. In the second experiment, injections were started during a sequence of repeated behavioral testings in the shock induced fighting situation. In neither case was there any evidence that PCPA injections had any effect on shock induced fighting behavior in rats. 14 references. (Journal abstract)

63015
AUTHORS: Conner, Robert L.; Stolk, Jon M.; Barchas, Jack D.; Levine, Seymour.
ADDRESS: Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305
TITLE: Parachlorophenylalanine and habituation to repetitive auditory startle stimuli in rats.
SOURCE: Physiology and Behavior (London).
SOURCEID: 5(11):1215-1219, 1970.

The relationship between brain serotonin levels and habituation of a skeletal motor startle response was studied using parachlorophenylalanine (PCPA), a drug which inhibits the formation of serotonin. Depletion of brain serotonin by PCPA slows down, but does not prevent, habituation. PCPA given to rats that were habituated before starting drug treatment causes a transitory increase in startle response magnitude. Whether PCPA is administered before or after habituation, the treated rats exhibit heightened reactivity to startle stimuli following exposure to novel stimuli. These results suggest that brain serotonin plays a role in inhibitory processes. 14 references. (Journal abstract)

63044
AUTHORS: Sparber, Sheldon B.; Shideman, Frederick E.
ADDRESS: Department of Pharmacology, 105 Millard Hall, Minneapolis, Minnesota 55455
TITLE: Elevated catecholamines in thirty-day-old chicken brain after depletion during development.
SOURCE: Developmental Psychobiology.
SOURCEID: 3(2):123-129, 1970.

The effects of prenatal reserpine administration upon uptake of tritiated norepinephrine (H3-NE) by newly hatched chick brain suggests an interference of catecholamine (CA) uptake and/or binding. The relationship between fluorescence from CA and the radioactivity from H3-NE approached unity in the control group where no such relation was seen in the reserpine treated group. Moreover, 30 days after hatching, CA levels in whole brain of chicks hatched from drug injected eggs were significantly higher than vehicle injected controls. However, reserpine did cause a slight but significant elevation of total protein in 14-day-old embryo brain. These data support the hypothesis that ontogenetic alteration of systems exhibiting end-product inhibition can be of a long-lasting, perhaps permanent nature. The direction of change in CA 30 days after hatching, opposite to the change induced pharmacologically during development, is additional support for the concept of "thermostat" type regulation of enzyme activity being determined by product concentration at critical periods during development. 12 references. (Journal abstract)

63061
AUTHORS: Hughes, R. E.; Jones, P. R.; Nicholas, P.
ADDRESS: University of Wales Institute of Science and Technology, Cardiff, United Kingdom
TITLE: Some effects of experimentally-produced cigarette smoke on the growth, vitamin C metabolism and organ weights of guinea-pigs.
SOURCE: Journal of Pharmacy and Pharmacology (London).
SOURCEID: 22(11):823-827, 1970.

Guinea pigs receiving a controlled dietary intake of L-xyloascorbic acid (ascorbic acid, vitamin C) inhaled experimentally produced cigarette smoke for periods of up to 20 min each day. Growth rate was significantly depressed by the smoke treatment, an effect at least in part attributable to a reduction in food intake. Growth of individual organs was not depressed to the same extent as that of the body as a whole. The lungs of the animals receiving smoke were significantly heavier than those of control animals (P less than 0.05). The concentration of ascorbic acid in the adrenal glands was significantly lower in the animals receiving smoke than in the controls (P less than 0.01). The smoke induced depression of the adrenal gland ascorbic acid was apparent after 4 days; after 18 days marked adrenal hypertrophy accompanied the lowered ascorbic acid levels. 17 references. (Author abstract)

63062
AUTHORS: Creaven, P. J.; Barbee, Theresa; Roach, Mary K.
ADDRESS: Section of Oncology, Veterans Administration Hospital, 50 Irving Street, Washington, D. C.
TITLE: The interaction of ethanol and amphetamine metabolism.
SOURCE: Journal of Pharmacy and Pharmacology (London).
SOURCEID: 22(11):828-831, 1970.

The interaction of ethanol and amphetamine metabolism is studied in an attempt to determine the mechanism of inhibition of hydroxylation of amphetamine by alcohol in the rat in vivo, and to elucidate the differences between amphetamine hydroxylation and that of other drugs. Confirming earlier work, ethanol at 1, 3 and 5g/kg depresses the hydroxylation of amphetamine by the rat in vivo. At 5g/kg, ethanol does not affect the hydroxylation of acetanilide or biphenyl in vivo. Amphetamine hydroxylation is unaffected by phenobarbitone or benzo(a) pyrene pretreatment but is depressed by pretreatment with 2-diethylaminoethyl-2, 2-diphenylvalerate, 2,4-dichloro-6-phenylphenoxyethylamine (DPEA), and 2,4-dichloro-6-phenylphenoxy-NN-diethylethylamine. 17 references. (Author abstract modified)

63333
AUTHORS: Gray, Jeffrey A.
ADDRESS: Institute of Experimental Psychology, University of Oxford, 1 South Parks Road, Oxford, England
TITLE: Sodium amobarbital, the hippocampal theta rhythm, and the partial reinforcement extinction effect.
SOURCE: Psychological Review.
SOURCEID: 77(5):465-480, 1970.

The rat's hippocampal theta rhythm shows frequency -specific correlations with behavior and reinforcement contingencies. A frequency of approximately 7.7 Hertz is seen during exploration and in response to frustrative nonreward. Amobarbital, which attenuates the behavioral effects of nonreward, selectively raises the threshold for septal driving of the hippocampal theta rhythm at this frequency. Septal driving of hippocampal theta at 7.7 Hertz during learning or extinction has opposite effects on behavior to amobarbital: applied during extinction it enhances extinction, applied during acquisition it creates a "pseudo partial reinforcement extinction effect." Blocking the theta rhythm by high frequency septal stimulation or medial septal lesions blocks the partial reinforcement extinction effect. It is proposed that there is a septohippocampal system which mediates the behavioral effects of frustrative nonreward and punishment and that amobarbital acts on behavior by antagonizing this system. 55 references. (Author abstract)

63591
AUTHORS: Beard, James D.
ADDRESS: Alcohol Research Center, Tennessee Psychiatric Hospital and Institute, Memphis, Tennessee
TITLE: Fluid and electrolyte abnormalities in alcoholism.
SOURCE: Psychosomatics.
SOURCEID: 11(5):502-503, 1970.

Clinical experiments and studies with dogs have been made to assist in clarifying the state of clinical confusion that exists concerning the problem of fluid and electrolyte balance in alcoholic patients. Marked malnutrition, or the prevalence of vomiting or diarrhea or both, complicate clinical impressions of fluid and electrolyte metabolism. Thediuretic action of ethyl alcohol has long been recognized. However, it should be recognized that the diuretic action depends on an increasing concentration of alcohol in the blood. When various doses of ethyl alcohol were given daily for 8 weeks to well nourished dogs via gastric tube, there was a significant increase in the measured fluid spaces; the plasma volume was elevated significantly but normal sodium, potassium and chloride levels were found; and analysis of water content of brain, heart, liver and skeletal muscles were considerably increased. Comparisons were made with control animals receiving isocaloric, isovolumetric amounts of fluids. Fluid intake of the experimental animals increased and balanced increased urinary output, but urinary excretion of sodium, potassium and chloride were significantly reduced. Partitioning of body fluids of well nourished chronic alcholic patients on admission and of normal controls showed similar results in elevated total body water but a significant reduction in plasma magnesium in the alcoholic. Other electrolyte changes are recorded. The results confirm the overhydration that can result following alcohol ingestion by well nourished animals or alcoholic patients.

58961
AUTHORS: Singer, G.; Montgomery, R. B.
ADDRESS: School of Behavioural Sciences, Macquarie University, North Ryde, N. S. W. 2113, Australia
TITLE: Functional relationships of brain circuits in control of drinking behavior.
SOURCE: Life Sciences (Oxford).
SOURCEID: 9(2):91-97, 1970.

The functional relationship between the amygdaloid and septal cholinergic circuits was investigated in 9 male Wistar rats injected with combinations of carbachol, atropine or placebo under 5 different treatments, while food- and water - satiated. Induction of increased water intake in the satiated rat by cholinergic stimulation of the lateral septal area was confirmed, and it was further found that simultaneous cholinergic stimulation of the amygdaloid cortical nucleus augmented this increase. Simultaneous anticholinergic blockade with atropine in the amygdaloid cortical nucleus reduced drinking to control level. The lack of response by the amygdaloid cortical nucleus to cholinergic stimulation in the satiated rat under simultaneous stimulation of the lateral septal area with atropine was also demonstrated. Under anticholinergic blockade with atropine in either locus simultaneous to cholinergic stimulation with carbachol in the alternative locus, base level drinking (double placebo injected) was not exceeded. The correctness of the loci of the implants in the rats was verified by histological examination at the conclusion of the experiment. 11 references.

58985
AUTHORS: Koppanyi, T.; Maling, H. M.; Saul, W.; Brodie, B. B.
ADDRESS: Dept. of Pharmacology, Georgetown University Schools of Medicine and Dentistry, Washington, D.C.
TITLE: Jumping activity induced by sodium 5-(1,3-dimethylbutyl)-5-ethyl barbiturate. II. The effects of age difference.
SOURCE: Proceedings of the Society for Experimental Biology and Medicine.
SOURCEID: 133(3):813-816, 1970.

Sodium 5-(1,3-dimethylbutyl)-5-ethyl barbiturate given in small doses (12.5-20.0mg/kg i.p.) to male mice from 2 random bred strains produced greater jumping activity in 1-month-old mice than in 9-month -old mice. There were no appreciable differences between young and old mice given large doses (22.5-25.0mg/kg). The brain levels of the barbiturate were similar in young and old mice. Jumping was markedly reduced by the beta adrenergic blocking agent, propranolol (30mg/kg) and the ganglionic blocking agent, chlorisondamine (3mg/kg). Both propranolol and chlorisondamine prevented convulsions and death from a large dose of barbiturate (22.5mg/kg). 11 references. (author abstract modified)

58992
AUTHORS: Plotnikoff, N.
ADDRESS: Dept. of General Pharmacology, Abbott Laboratories, North Chicago, Illinois 60064
TITLE: Comparison of PMH and pemoline activity after electroconvulsive shock.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(1):175-185, 1970.

Additional pharmacological differences between pemoline and magnesium hydroxide (PMH) and pemoline alone in mice, rats and rabbits after electroshock treatment are presented. PMH was found to exhibit greater anticonvulsant activity than pemoline alone in mice and rats, and PMH was also more effective in enhancing performance in a conditioned avoidance task in rats after electroshock. In

addition, PMH accelerated recovery of a conditioned photic evoked response after electroshock more rapidly than pemoline alone. 14 references. (author abstract modified)

58993
AUTHORS: Malick, J. B.; Goldberg, M. E.
ADDRESS: Schering Corporation, Bloomfield, New Jersey
TITLE: Effects of a choline acetyltransferase inhibitor on self-stimulatory behavior in the rat.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(2):252-256, 1970.

The effect of a specific choline acetyltransferase inhibitor, 4-(1-naphthylvinyl)-pyridine (NVP), on self-stimulatory behavior in the rat was tested on electrode sites in the brain which were inhibited by cholinergic drugs. NVP failed to cause any significant alterations in self-stimulatory behavior at doses which were not overtly depressing. However, NVP was capable of facilitating the effects of amphetamine on self-stimulation. 14 references. (author abstract)

58997
AUTHORS: Uyeno, E. T.
ADDRESS: Life Sciences Research, Stanford Research Institute, Menlo Park, California
TITLE: Lysergic acid diethylamide, chlorpromazine and maze performance.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(2):389-394, 1970.

The effects of LSD-25 and chlorpromazine (CPZ) on the learned performance of 18-day-old rats, evaluated in the two channel Lashley maze, are described. The peak disrupting effect of LSD-25 occurred 10 minutes after the intraperitoneal injection, and that of CPZ, 45 minutes after. The impairing effects of the compounds were found to be dose dependent. The median effective doses (ED50) for LSD-25 and CPZ were 0.27 micromole/kg and 12.5 micromoles/kg respectively. The percentage of LSD-25 treated animals (33.3%) that took more than 50 seconds to reach their home cages was not significantly different from that of CPZ treated animals (21.1%). However, a significantly greater number of LSD-25 treated animals than CPZ treated animals made two or more errors. 8 references. (author abstract modified)

59032
AUTHORS: Walters, Gary C.; Abel, Ernest L.
ADDRESS: Department of Psychology, University of Toronto, Toronto 5, Ontario, Canada
TITLE: Effects of a marihuana homologue (Pyrahexyl) on avoidance learning in the gerbil.
SOURCE: Journal of Pharmacy and Pharmacology (London).
SOURCEID: 22(4):310-312, 1970.

The effects of pyrahexyl on avoidance learning was tested in male gerbils, which were placed individually in a 2 compartment shuttle box and were trained to avoid an electric shock by jumping over a barrier within a predetermined time period. Pyrahexyl - injected animals (2.3mg/kg) made significantly more avoidance responses on the first day of testing than did control animals. No difference in performance was noted on the second day of testing. Thus, pyrahexyl affected the acquisition of an active avoidance response in its earliest stages. Possibly, pyrahexyl increases the probability of a dominant response which would normally occur in a given situation. 7 references.

59567

AUTHORS: Knox, Clifford; Gendreau, Paul.
ADDRESS: Trent University, Peterborough, Ontario, Canada
TITLE: The effect of magnesium pemoline on discrimination learning and exploratory behavior.
SOURCE: Psychonomic Science.
SOURCEID: 19(5):295-296, 1970.

Following the report of Glasky and Simon (1966) on the facilitating effects of magnesium pemoline (MP) or ribonucleic acid synthesis, considerable attention has focused on the influence of MP learning. Thirty rats served as subjects. A drug group was injected interperitoneally with 10 mg/kg body weight of MP in tragacanth and a control group received the vehicle substance only. The animals were tested on a 2 alternative forced choice brightness discrimination task and an open field test of exploratory behavior. The drug group 1) increased exploratory behavior; 2) produced superior percentage correct discrimination performance; and 3) decreased running speed. The results indicated that the drug, besides having considerable stimulant properties, enhanced learning. Also, a previous study on MP and discrimination learning was reanalyzed and superior discrimination was found for the drug group. 16 references. (Author abstract modified)

59616
AUTHORS: Kristt, Donald A.; Freimark, Steven J., Salzinger, Kurt.
ADDRESS: Polytechnic Institute of Brooklyn, Brooklyn, New York 11201
TITLE: The effect of puromycin on retention of a positively reinforced response in goldfish.
SOURCE: Psychonomic Science.
SOURCEID: 20(3):181-183, 1970.

The hypothesis that long-term memory is associated with the synthesis of a special storage protein is an intriguing one. Several groups have approached this question by utilizing the antibiotic puromycin, a substance known to inhibit brain protein synthesis by more than 80% following intracranial injection. To test this theory, 2 groups of goldfish were trained to strike a small target for food reinforcement. One group was injected with puromycin, the other with saline, immediately following training. On testing, 2 days later, puromycin fish performed as well as saline controls. 9 references. (Author abstract modified)

60090
AUTHORS: Gauron, Eugene F.; Rowley, Vinton N.
ADDRESS: Department of Psychiatry, State Psychopathic Hospital, 500 Newton Road, Iowa City, Iowa 52240
TITLE: The modifiability of infantile shock traumatization effects by contiguous drug administrations.
SOURCE: Journal of Genetic Psychology.
SOURCEID: 117:51-56, 1970.

Research was conducted to explore the effectiveness of tranquilizing drugs in modifying learning deficits associated with shock traumatization in infancy and to test the explanatory value of the state dependent learning model by the addition of a more potent drug, haloperidol. Forty eight albino rats from a total of 6 litters were subdivided by a split litter technique into 4 groups. The drug dosage levels were 3 mg/kg chlorpromazine, .5 mg/kg diazepam, .1 mg/kg haloperidol, and an equivalent volume of isotonic saline. Drugs and shock were administered from days 10 to 25 of life. All animals completed avoidance conditioning training beginning at 75 days. Analyses of variance provided support for the previous finding that tranquilizing drugs are useful in modifying trauma effects. Chlorpromazine was the most effective drug; diazepam was somewhat less effective; haloperidol was definitely not effective for the purpose of this study in the dosages employed. The latter finding could be interpreted as casting doubt on a state dependent phenomenon or as suggesting that haloperidol is not an effective treatment agent

in modifying learning deficits. 5 references. (Author abstract modified)

60274
AUTHORS: Sparber, S. B.; Luther, Irene G.
ADDRESS: Department of Pharmacology, University of Minnesota, Minneapolis, Minnesota 55455
TITLE: Dopamine concentrations in the brainstem-mesencephalon of active rats as compared with passive rats.
SOURCE: Neuropharmacology.
SOURCEID: 9:243-247, 1970.

The results of a study in which dopamine concentrations in the brainstem - mesencephalon of active rats were compared with those of passive rats give further evidence that dopamine may mediate certain behavioral characteristics. Exploratory locomotor activity was measured as door crossings in a total population of more than 90 ovariectomized rats. Passive (N=17) and active (N=15) rats were chosen as outliers beyond one standard deviation to the left and right of the population mean (10.6+ 6.9, M S.D.). Two-thirds of each group was placed within a restraining device and exposed to cold (refrigerator). The other third of each group acted as controls and were left in their home cages. After two hours the rats were killed by decapitation and their brainstem mesencephalons were assayed for norepinephrine, epinephrine; dopamine and dopa. Active rats had significantly less dopamine (plus dopa) than passive rats. Restraining them for two hours in a cold environment obviated this difference, suggesting an interoceptive feedback mechanism inhibiting release and/or metabolism when active animals are unable to locomote. The possibility that there are differences in sensitivities to restraint-stress between active and passive animals is also discussed. 17 references. (Author abstract modified)

60275
AUTHORS: Rosen, Alexander J.; Tessel, Richard E.
ADDRESS: Department of Psychology, University of Illinois at Chicago Circle, Box 4348, Chicago, Illinois 60680
TITLE: Chlorpromazine, chlordiazepoxide, and the incentive-shift performance in the rat.
SOURCE: Journal of Comparative and Physiological Psychology.
SOURCEID: 72(2):257-262, 1970.

The effects of chlorpromazine (classified clinically as an antipsychotic agent) and chlordiazepoxide (classified as an antianxiety agent) on the incentive shift performance were determined in the rat. Two experiments were performed in which eight groups of rats each were given 43 straight runway trials with either 15 or 1 pellet. Two groups in each study were given saline injections and 6 others either chlordiazepoxide (2.5, 5.0, or 10.0 mg/kg) or chlorpromazine (1.0, 3.0, or 5.0 mg/kg). The former drug prevented the appearance of reliable depression effects at the higher doses while the latter did not. The results demonstrate an important distinction between antianxiety and antipsychotic agents and suggest further similarities between frustration and fear. 17 references. (Author abstract modified)

60490
AUTHORS: Chamove, Arnold S.; Waisman, Harry A.; Harlow, Harry F.
ADDRESS: Primate Research Center, 1223 Capital Court, University of Wisconsin, Madison, Wisconsin 53706
TITLE: Abnormal social behavior in phenylketonuric monkeys.
SOURCE: Journal of Abnormal Psychology.
SOURCEID: 76(1):62-68, 1970.

In a study of mental retardation caused by inborn errors of amino acid metabolism, 4 rhesus monkeys, given a diet high in phenylalanine early in life, were compared with 2 control groups in learning and social behavior when all Ss were on a normal diet. In

comparison with the controls, the phenylketonuric (PKU) Ss were slow in learning a conditioned shock avoidance task and showed extreme subnormal and inadequate social behavior. This gross incompetence in social interaction was reflected in the inconsistence of dominance rankings in a competitive food situation and in the excessive hostility, excessive fear, and deficient play responses, both in the relatively unfamiliar playroom situation with familiar peers and in the home cage with unfamiliar stimulus monkeys. These PKU Ss were normal in more primitive, more reflexive behaviors, e.g., behaviors reflecting activity, simple social, environmental, and self-stimulating behaviors. 10 references. (Author abstract)

60756
AUTHORS: Ley, K. F.; Corson, J. A.
ADDRESS: Department of Psychiatry, McGill University, Montreal 112, Quebec, Canada
TITLE: Effects of ACTH and zinc phosphate vehicle on shuttlebox CAR.
SOURCE: Psychonomic Science.
SOURCEID: 20(5):307-309, 1970.

Two studies that demonstrate a significant behavioral effect of the zinc phosphate vehicle in which some ACTH preparations are suspended for repository action are reported. Conditioned avoidance responding of Ss receiving subcutaneous injections of adrenocorticotraphic hormone, zinc phosphate vehicle, and physiological saline was studied in the 2 way shuttlebox at 3 unconditioned stimulus (UCS) intensity levels. In no case did ACTH Ss differ significantly from saline control Ss, but the zinc phosphate vehicle was found to alter performance both during acquisition and extinction. 22 references. (Author abstract modified)

60801
AUTHORS: Margules, D. L.
ADDRESS: Department of Psychology, Box 20, Temple University, Philadelphia, Pennsylvania 19122
TITLE: Alpha-adrenergic receptors in hypothalamus for the suppression of feeding behavior by satiety.
SOURCE: Journal of Comparative and Physiological Psychology.
SOURCEID: 73(1):1-12, 1970.

Direct bilateral application of an alpha-adrenergic blocker (phentolamine Hcl) to the perifornical medial forebrain bundle (of male albino rats fed chow ad lib) caused intense overeating of milk. This effect was anatomically localized and chemically specific. At these sites, such application of l-norepinephrine suppressed the intake of milk but d-norepinephrine did not. Adulteration of the milk with quinine sulfate (.008%) had little effect on the suppression of feeding caused by norepinephrine. Adulteration with .004% quinine eliminated the overeating caused by phentolamine and, with .010% quinine adulteration, phentolamine suppressed milk intake. Thus, blockade of alpha-adrenergic receptors in the perifornical medial forebrain bundle by phentolamine causes the same paradoxical effects as ventromedial hypothalamic lesions; overeating of palatable food and finickiness for unpalatable food. Alpha-adrenergic receptors in the hypothalamus may participate in the regulation of feeding behavior by satiety. Moreover, the negative feedback aftereffects of these receptors may be responsible for the hunger satiety cycle. 39 references. (Journal abstract)

60858
AUTHORS: Biederman, G. B.
ADDRESS: University of Toronto, Toronto, Ontario, Canada
TITLE: Memory enhancement of a partly-learned discrimination in pigeons by intramuscular injection of physostigmine.
SOURCE: Psychonomic Science.
SOURCEID: 21(1):33-35, 1970.

Pigeons, individually trained in 2 discrimination tasks, with 1 well learned and 1 partly learned, showed improvement in relearning each task following injection of the anticholinesterase physostigmine. A control group, receiving saline after 28 days had elapsed from the original training, showed forgetting of the partly learned discrimination. The 28 day physostigmine group showed improvement in the relearning of the partly learned discrimination. These facts suggest that anticholinesterase injection had facilitated the memory of the partly learned task in the experimental group. The failure of anticholinesterase to produce amnesia in pigeons, while apparently facilitating memory for a partly forgotten discrimination, suggests that pigeon memory may operate in a different temporal sequence than does rat memory. 10 references. (Author abstract)

61094
AUTHORS: Cullen, Joseph W.
ADDRESS: Pavlovian Institute, Veterans Administration Hospital, Perry Point, Maryland 21902
TITLE: Modification of NaCl appetite in the adrenalectomized rat consequent to extensive LiCl poisoning.
SOURCE: Journal of Comparative and Physiological Psychology.
SOURCEID: 72(1):79-84, 1970.

The question that prompted the present research was whether an intense LiCl aversion, established after repeated LiCl experience, would interfere with NaCl hunger in the adrenalectomized rat. Six groups of rats were exposed to 1 of 2 molarities of LiCl (.15 or .35) for 8 days along with water or .15 M NaCl. Sixteen percent of the animals died. The toxin was then removed and the animals were given time to reestablish their pretoxic base weights. Half of the groups were then adrenalectomized (ADX) and half were sham adrenalectomized (S-ADX). Not only did the S-ADX rats drink more salt postoperatively but 2 of the ADX groups showed protracted weight losses and 4 animals died. The results reinforced earlier findings on NaCl aversion subsequent to LiCl poisoning, but suggested that if such an aversion is intense enough it will interfere with compensatory salt hunger in the ADX rat. 14 references. (Author abstract modified)

61540
AUTHORS: Biederman, G. B.
ADDRESS: University of Toronto, Toronto, Canada
TITLE: Forgetting of an operant response: physostigmine-produced increases in escape latency in rats as a function of time of injection.
SOURCE: Quarterly Journal of Experimental Psychology (Cambridge, England).
SOURCEID: 22:384-388, 1970.

Latency of a fixed ratio (FR) 3 escape response in rats was found to be a U-shaped function of the interval between training and injection of the anticholinesterase drug physostigmine, for intervals from 30 min. to 5 days between training and injection. An increase in FR 3 escape latency was found at 28 days. FR 1 escape groups produced a latency curve of a shape similar to that of the FR 3 group. These data confirm the results of earlier experiments using a different training procedure, and a different response measure. These results are consistent with the theory that the physiological correlate of rat memory lies in synaptic change. 8 references. (Author abstract)

61597
AUTHORS: McMillan, D. E.; Campbell, B. J.
ADDRESS: Department of Pharmacology, School of Medicine, University of North Carolina, Chapel Hill, North Carolina 27514
TITLE: Effects of d-amphetamine and chlordiazepoxide on spaced responding in pigeons.
SOURCE: Journal of the Experimental Analysis of Behavior.

SOURCEID: 14:177-184, 1970.

The effects of d-amphetamine and chlordiazepoxide were studied in pigeons on performance 1) under a schedule that reinforced responses on a key (food key) if they were more than 20 sec apart, 2) under the same schedule when responses also were required on a collateral key during the interresponse time on the food key, and 3) under the same schedule when responses were required on a collateral key during the interresponse time on the food key and collateral key responses could produce a stimulus correlated with the availability of food. Under all 3 spaced responding schedules, d-amphetamine and chlordiazepoxide at low dose levels slightly increased the frequency of short interresponse times on the food key for about half the birds, and either did not affect the interresponse time patterns of the other birds, or lengthened the durations slightly. At higher dose levels, d-amphetamine and chlordiazepoxideincreased the frequency of long interresponse times or abolished responding in all birds. Changes in the pattern of interresponse times on the food key did not seem to depend on changes in the rate or pattern of collateral key responses. 13 references. (Author abstract)

61632

AUTHORS: Goldberg, Steven R.; Schuster, Charles R.
ADDRESS: Department of Pharmacology, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts 02115
TITLE: Conditioned nalorphine-induced abstinence changes: persistence in post morphine-dependent monkeys.
SOURCE: Journal of the Experimental Analysis of Behavior.
SOURCEID: 14(1):33-46, 1970.

The physiological effects of intravenous injections of nalorphine on morphine dependent monkeys were studied. Every tenth lever press of 3 morphine dependent rhesus monkeys was reinforced with food. A red light, initially a neutral stimulus, was presented everythird or fourth session for 5 min. before and 5 min. after an intravenous injection of nalorphine, a morphine antagonist that produces an immediate abstinence syndrome in morphine dependent monkeys. After several pairings, conditioned suppression of lever pressing, heart rate decrease, vomiting, and excessive salivation were observed during the red light period before nalorphine injection. No conditioned electrocardiogram, respiration or temperature changes occurred. After 10 red light nalorphine pairings, morphine administration was completely discontinued and monkeys were then tested monthly for persistence of the conditioned responses. The red light paired with saline injection continued to suppress lever pressing and to produce heart rate decreases after 60 to 120 days of complete abstinence from morphine. Subsequently, daily presentations of the red light saline injection complex rapidly extinguished these conditioned responses. Nevertheless, they could be rapidly reinstated by additional nalorphine injections. 24 references. (Journal abstract modified)

62521

AUTHORS: D'Encarnacao, Paul S.; Anderson, Kenneth.
ADDRESS: Department of Psychology, Memphis State University, Memphis, Tennessee
TITLE: Effects of lithium pretreatment on amphetamine and DMI tetrabenazine produced psychomotor behavior.
SOURCE: Diseases of the Nervous System.
SOURCEID: 31(7):494-496, 1970.

Based on the catecholamine hypothesis of affective disorders and of psychoactive behaviors, an animal experiment has been carried out to test the effects of lithium pretreatment on amphetamine and desipramine (DMI) plus tetrabenazine produced psychomotor behavior. Activity movements of the rats after lithium pretreatment for 4 days followed by injection of either amphetamine or the DMI plus tetrabenazine combination. Lithium pretreatment was found to have an initial calming effect on the rats (over saline) in the orientation

period; on the other hand, lithium pretreatment to amphetamine excitation produced a potentiation of the behavioral effects with almost double the initial psychoactive behavior which amphetamine would normally produce. In the dosage used, lithium was not found to block the effects of DMI plus tetrabenazine. The findings are discussed in relation to the catecholamine hypothesis. 9 references.

62777
AUTHORS: Sheard, Michael H.
ADDRESS: Department of Psychiatry, Yale University School of Medicine, 34 Park St., New Haven, Connecticut 06519
TITLE: Effect of lithium on foot shock aggression in rats.
SOURCE: Nature (London).
SOURCEID: 228(5268):284-285, 1970.

The action of lithium on aggressive behavior in rats subjected to foot shock is investigated because lithium has been shown to be effective in the treatment of mania and in reducing aggressive behavior in other animals. The subjects were Sprague-Dawley male rats. Lithium at 5 mequiv/kg or saline solution was administered by intraperitoneal injection. Graduated current was delivered through a grid floor. There was a marked tendency for rats treated with lithium not to fight at current intensities which provoked fighting in rats treated with saline. Moreover, rats, treated with lithium sustained high levels of shockintensity without fighting. The inhibiting effect of lithium in aggressive behavior induced by pain is indicated. 8 references.

62937
AUTHORS: Przegalinski, E.; Kleinrok, Z.
ADDRESS: Department of Pharmacology, School of Medicine, Jaczewskiego 1/3, Lublin, Poland
TITLE: Effect of diethyldithiocarbamate on the toxicity of amphetamine in aggregated mice.
SOURCE: Psychopharmacologia (Berlin).
SOURCEID: 16(5):409-418, 1970.

Studies were performed to investigate the influence of diethyldithiocarbamate on the toxicity of amphetamine in aggregated mice. In the same mice changes in body temperature and spontaneous motility were determined. In the other experiments brain catecholamine concentrations were assayed. Diethyldithiocarbamate potentiated the toxicity of amphetamine in some experimental conditions and slghtly antagonized it in others. These effects are discussed in relation to behavioral and biochemical changes observed in mice. 26 references. (Author abstract modified)

62940
AUTHORS: Wikler, Abraham; Pescor, Frank T.
ADDRESS: Department of Psychiatry, University of Kentucky, College of Medicine, Lexington, Kentucky 40506
TITLE: Persistence of "relapse-tendencies" of rats previously made physically dependent on morphine.
SOURCE: Psychopharmacologia (Berlin).
SOURCEID: 16(5):375-384, 1970.

The persistence of relapse tendencies of rats previously made physically dependent on morphine were studied. Measurements of 24 hr tap water consumption body weight, "wet dog" shake frequency and free choice drinking (etonitazene, 5mcg/ml versus distilled water) were made at intervals up to 434 days following abrupt withdrawal of morphine (from a daily maintenance dose level of 200mg/kg i.p.) in 1 group of rats ("postaddicts") and following termination of i.p. injections of saline in a control group of rats ("normals"). During the first 5 days after termination of injections, signs of primary morphine abstinence were observed in the "postaddict" rats: transient decrease in 24 hr tap water consumption and in body weight, and increase in "wet dog" shake frequency. Secondary morphine abstinence

phenomena, consisting of significantly greater 24 hr tap water consumption and slightly higher "wet dog" shake frequency (compared with normal rats) were observed in "postaddict" rats over the 7th--23rd postinjection days. Thereafter, these differences persisted, but not at significant levels. Observations were made on amounts of etonitazene or water taken in a no choice test (between 28 and 37 days), and of amounts of etonitazene versus water taken in free choice drinking tests (at intervals over 434 days following injections), and results are reported. It is concluded that in the postaddict rat a need for an opioid persists for about 1 year after abrupt withdrawal of morphine, and that this need is based on long-term derangement of homeostasis. The possible causes of the long persistence of the relapse tendency are discussed. 6 references. (Author abstract modified)

62941
AUTHORS: Herman, Zbigniew S.
ADDRESS: Department of Pharmacology, Silesian School of Medicine, K. Marksa 38, Zabrze 8, Poland
TITLE: The effects of noradrenaline on rat's behaviour.
SOURCE: Psychopharmacologia (Berlin).
SOURCEID: 16(5):369-374, 1970.

The behavioral effects of noradrenaline (NA) injected without narcosis into the lateral brain ventricle of the rats were studied with 2 different techniques. Rats were classified according to their normal level of exploratory activity into 3 groups: high, medium and low. It was shown that NA in a dose of 10 micrograms increased locomotor activity only in animals of low activity; a dose of 50 micrograms increased locomotor activity in all the animals; and a dose of 200 micrograms induced a complete abolition of locomotor activity and a stuporose syndrome lasting 2 hours. The evidence that NA in some experimental conditions increases locomotor activity of rats supports the hypothesis that NA regulates processes in the central nervous system which stimulate behavior. 14 references. (Author abstract modified)

62942
AUTHORS: Heise, George A.; Laughlin, Nell; Keller, Connie.
ADDRESS: Dept. of Psychology, Indiana University, Bloomington, Indiana 47401
TITLE: A behavioral and pharmacological analysis of reinforcement withdrawal.
SOURCE: Psychopharmacologia (Berlin).
SOURCEID: 16(5):345-368, 1970.

A discrete trial lever pressing situation was developed for measuring the behavior of rats during repeated periods of reinforcement withdrawal following periods of 100% or 50%reinforcement. Behavior during the reinforcement and withdrawal period trials was learned rapidly and remained stable under the standard conditions. Atropine, scopolamine, d-amphetamine, and other compounds produced orderly, dose related changes in withdrawal period trial responding. Relations between the effects of different types of compounds and parameters of the behavioral system were investigated in order to determine the generality of the drug results. Withdrawal period trial responding under control or drug conditions did not depend on whether the withdrawal period terminated after 20 trials or whether it terminated as soon as the rat had not pressed the lever for 3 consecutive trials. The rats responded on more withdrawal period trials following 50% reinforcement than following 100% reinforcement, but the proportional increase in responding produced by drugs was similar for both schedules. The effects on withdrawal period behavior of presenting a tone either 1) throughout the withdrawal period, 2) at the beginning of the withdrawal period, or 3) of removing the tone entirely were examined in order to define precisely the discriminative stimuli controlling the behavior and the nature of the changes produced by drugs. While a tone present throughout the withdrawal period controlled responding

under nondrug conditions, withdrawal period responding following administration of atropine, scopolamine, or d-amphetamine was essentially the same whether or not the tone was present. It was therefore concluded that these drugs selectively impaired inhibitory stimulus control of responding. 11 references. (Author abstract)

63014
AUTHORS: Dewsbury, Donald A.; Davis, Harry N., Jr.
ADDRESS: Department of Psychology, University of Florida, Gainesville, Florida 32601
TITLE: Effects of reserpine on the copulatory behavior of male rats.
SOURCE: Physiology and Behavior (London).
SOURCEID: 5(11):1331-1333, 1970.

Each of 27 male rats received 3 tests of copulatory behavior, 2 following saline injection, 2 following injection of 0.5mg/kg reserpine, and 2 following injection of 1.0mg/kg reserpine. Reserpine had a specific facilitatory effect on male copulatory behavior, causing significant reductions in the number of intromissions and in the time required to attain ejaculation in the second ejaculatory series. 20 references. (Journal abstract)

63019
AUTHORS: Fog, Rasmus.
ADDRESS: Sankt Hans Hospital E, DK-4000 Roskilde, Denmark
TITLE: Behavioural effects in rats of morphine and amphetamine and of a combination of the two drugs.
SOURCE: Psychopharmacologia (Berlin).
SOURCEID: 16(4):305-312, 1970.

Small single doses of morphine (1mg/kg subcutaneously (s.c.)) and of amphetamine (1mg/kg s.c.) induce excitation in rats. Locomotion and rearing are selectively stimulated by amphetamine, and grooming by morphine. Higher doses of morphine (5mg/kg s.c.) cause sedation or catalepsy (20mg/kg s.c.) but no stereotypies are seen as after amphetamine (10mg/kg s.c.). Repeated doses of morphine induce stereotyped behavior, which is inhibited by nalorphine. An antagonism between morphine and amphetamine is demonstrated but the antiamphetamine effect of morphine is different from that of the neuroleptic drugs. Catecholamines in the basal ganglia may play a role in these behavioral effects of morphine. 18 references. (Author abstract)

63275
AUTHORS: Baum, Morrie.
ADDRESS: Department of Psychology, Bishop's University, Lennoxville, Quebec, Canada
TITLE: Extinction of avoidance responding through response prevention (flooding).
SOURCE: Psychological Bulletin.
SOURCEID: 74(4):276-284, 1970.

The resistance to extinction of avoidance responding is discussed, and a treatment for hastening extinction is described. The treatment, known as response prevention (flooding), consists of thwarting the avoidance response while forcing the subject to remain in the situation which it fears. Behavior therapy analogues to response prevention are revieved, and the various factors which determine the efficacy of response prevention with animals are described. Pharmacological and behavioral techniques for enhancing the effectiveness of response prevention are noted. Three theories (2 process theory, competing response theory, and a relaxation analysis), which attempt to explain why and how response prevention works, are discussed, and it is concluded that no 1 theory providesan adequate account of all the results obtained. 49 references. (Author abstract)

63587
AUTHORS: McKim, W. A.
ADDRESS: University of Western Ontario, London, Ontario, Canada
TITLE: The effects of scopolamine on the extinction of a continuously reinforced response.
SOURCE: Psychonomic Science.
SOURCEID: 20(5):281-282, 1970.

Thirty five rats were injected with varying doses of scopolamine, methyl scopolamine, and saline before extinction of a continuously reinforced response (CRF). Methyl scopolamine and low doses of scopolamine speeded extinction, whereas higher doses of scopolamine led to responding similar to that of saline controls. It is suggested that the relatively weak tendency to respond after CRF training and the drastic switch to extinction from CRF maximized the disruptive peripheral effects of scopolamine, and as a result higher doses were required to show prolongation of extinction. 12 references. (Author abstract)

58974
AUTHORS: Spindler, J. S.; Garcia Monge, Maria T.
ADDRESS: Dept. of Experimental Embryology, School of Medicine, Madrid, Spain
TITLE: Effects of DOM (STP) on the chick embryo.
SOURCE: Bulletin on Narcotics.
SOURCEID: 22(1):55-60, 1970.

The teratogenic effects of DOM (2,5-dimethoxy-4-methylamphetamine, also known as STP) were studied in the developing chick embryo. The drug was introduced into the chick embryo in doses of 0.5 micrograms and 0.05 micrograms per 0.25ml during stage 5. Incubation was stopped at intervals of 24, 48, 72 and 144 hours, and the embryos were fixed in 10% neutral Formol or Bouin's solutions. They were then examined for gross morphological abnormalities. Of the 208 embryos used, 115 were normal, and 93 (44.7%) displayed varying degrees and types of malformations. The most common were anencephalia, microphthalmia, spina bifida, microsomia, rachischisis and localized hemorrhages. These anomalies appeared with a greater frequency than in the control group, indicating that DOM is teratogenic for the developing chick embryo. 14 references. (author abstract modified)

58984
AUTHORS: Mennear, John H.; Miya, Tom S.
ADDRESS: Dept. of Pharmacology and Toxicology, Purdue University, Lafayette, Ind. 47906
TITLE: Chlorpromazine-induced glucose intolerance in the mouse.
SOURCE: Proceedings of the Society for Experimental Biology and Medicine.
SOURCEID: 133(3):770-773, 1970.

Chlorpromazine (3-10mg/kg i.p.) injected into male albino mice produced a dose related increase in blood glucose levels with the peak level noted 1 hr after injection of the 5mg/kg dose. The magnitude of the hyperglycemic response is related to liver glycogen levels, since fasting depleted liver glycogen and attenuated the hyperglycemic response. The mice quickly developed tolerance to the hyperglycemic effect of chlorpromazine, and 18 hrs after a single dose, a second dose of the drug was not hyperglycemic. This tolerance did not impart tolerance to the hyperglycemic effects of either epinephrine or alloxan. Chlorpromazine was also found to reduce glucose tolerance in mice, but the reduced glucose tolerance is not completely antagonized by pretreatment with chlorpromazine. 7 references. (author abstract modified)

58987
AUTHORS: Klinger, W.
ADDRESS: Institut fur Pharmakologie und Toxikologie der Friedrich-Schiller- Universitat, Jena, Germany
TRTITLE: /Toxicity, narcotic effect, concentration at end of anesthesia, elimination from blood and biotransformation of hexobarbital in rats of various ages following sleep induction with barbital and after./
TITLE: Toxizitat, Narkotische Wirkung, Aufwachkonzentration im Blut, Elimination aus dem Blut und Biotransformation von Hexobarbital bei Ratten unterschiedlichen Alters nach Induktion mit Barbital u. nach CCl4-Schadigung.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(1):5-18, 1970.

The toxicity, narcotic effects, concentration at the end of anesthesia, elimination from the blood and biotransformation in vitro by 9000g of supernatant liver extract of hexobarbital in rats, are presented. The distribution space of hexobarbital is age dependent and indirectly correlated to the toxicity, and the sleeping time

directly correlated to the rate of elimination and biotransformation. The sensitivity of the determination of sleeping time was found to be higher than by determination of half-life or biotransformation activity of liver microsomes. Following administration of CCl4 the sleeping times were markedly prolonged. Acute habituation was only observed for sleeping times longer than 200 minutes. After pretreatment with barbital, sleeping times were shorter in younger animals, and concentrations at the end of anesthesia were lower than in control animals. 42 references. (author abstract modified)

58991
AUTHORS: Schmitt, H.; Cheymol, G.; Gilbert, J. C.
ADDRESS: Lab. de Pharmacologie des Facultes de Med., 15, rue de l'Ecole de Medecine, Paris 6e, France
TRTITLE: /Anti-arrhythmic and hemodynamic effects of imipramine and chlorimipramine./
TITLE: Effets anti-arythmisants et hemodynamiques de l'imipramine et de la chlorimipramine.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(1):158-174, 1970.

Imipramine and chlorimipramine (1-4mg/kg) exert a quinidine-like action in preventing arrhythmias in rat, guinea pig or dog. Imipramine affords a longer protection than chlorimipramine. In cardiovasculardynamics, both thymoanaleptics show a two step action: stimulation at doses below 3mg/kg, and depressant at 4mg/kg and above. Within the limits of antiarrhythmic doses, cardiac depression is weak. 24 references. (author abstract)

58996
AUTHORS: Yelnosky, J.; Lawlor, R. B.
ADDRESS: Dept. of Pharmacology, Pharmaceutical Division, Pennwalt Corporation, Rochester, N. Y. 14603
TITLE: A comparative study of the pharmacologic actions of amphetamine and fenfluramine.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(2):374-388, 1970.

Fenfluramine (N-ethyl-alpha-methyl-3-trifluoromethyl phenethylamine) is similar in its spectrum of pharmacologic actions to amphetamine, but there are quantitative differences with respect to their cardiovascular and anorectic effects. A comparative study was undertaken to confirm some of the differences and similarities between these two drugs and with a view of making additional comparisons to obtain a better understanding of the pharmacology of these agents. Similarities were found in the sympathomimetic action and in their response to reserpine. Both compounds were able to cause a decrease in water consumption, but amphetamine was more effective. Fenfluramine was considered to have a CNS effect common to phenothiazines, unlike amphetamine. A mixture of these agents had an additive effect on food consumption and were synergistic with respect to toxicity. 15 references.

58998
AUTHORS: Stolk, J. M.; Burnett, L. S.; Rech, R. H.
ADDRESS: Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305
TITLE: Association of amphetamine toxicity and tissue glycogen depletion in mice and rats.
SOURCE: Archives internat. de Pharmacodynamie et de Therapie (Ghent).
SOURCEID: 184(2):395-404, 1970.

Amphetamine toxicity in mice is reported to be associated with tissue glycogenolysis, and that endogenous catecholamine stores, released by d-amphetamine, are possibly responsible for the decrease

in tissue glycogen levels. The data presented in mice and rats support the hypothesis that death and glycogenolysis following amphetamine administration are related. The mechanism by which relatively high doses of amphetamine decrease mortality and lessen the degree of tissue glycogen reduction in mice is not known. In rats, the inability of reserpine to prevent death and glycogenolysis by amphetamine is in marked contrast to the observations in mice. 22 references. (author abstract modified)

60222
AUTHORS: Forrest, Irene S.
ADDRESS: Stanford University School of Medicine, Palo Alto, California
TITLE: Project summary: nature of late side effects of phenothiazine therapy.
SOURCE: NIMH, 5454 Wisconsin Avenue, Bethesda, Maryland 20015.
SOURCEID: Began June 1, 1968. Completed May 31, 1969.

Publications produced as a result of the award adequately summarize the results with regard to the mechanism of production of hyperpigmentation of ultraviolet exposed skin in chlorpromazinized rabbits. It was assumed that this condition was attributable to a metabolic peculiarity in some patients, as these patients showed a small amount of unconjugated 7-hydroxychlorpromazine in the urine. If this type of drug metabolism predisposed an animal toward hyperpigmentation of the skin, then rabbit was indeed a logical candidate for an animal model. This was confirmed in 16 out ot 16 pigmented rabbits in about 4 weeks of daily ultraviolet irradiation of the shaved pigmented skin areas. Accordingly, it is felt that a clear cut demonstration of the significance of drug metabolism for a pharmacological effect (or side effect) has been made and that a first model animal for chlorpromazine induced hyperpigmentation has been established. 2 references.

07 EARLY CLINICAL DRUG TRIALS

59040
AUTHORS: Hekimian, L. J.; Gershon, S.; Floyd, A.
ADDRESS: Neuropsychopharmacology Research Unit, Dept. of Psychiatry, New York University Medical Center, 550 First Avenue, New York, N.Y. 10016
TITLE: The clinical evaluation of four proposed antidepressants. Relationship to their animal pharmacology.
SOURCE: International Pharmacopsychiatry (Basel).
SOURCEID: 3(2):65-76, 1970.

A review of 4 new compounds, all fulfilling antidepressant criteria in preclinical animal studies, is presented in connection with clinical treatment in 36 depressed hospital patients. The compounds were: AHR-800B, WIN 25,978, BC-347 and MJ-1986. The findings showed poor correlations between preclinical animal testing and subsequent clinical effects. For example, BC-347, which was tested as a tranquilizer, was a stimulant clinically; and a laboratory stimulant (MJ-1986) had no antidepressant properties. Rating scales, as adopted by 2 senior psychiatrists, showed poor correlations with clinical global impressions. Improvement scores on Hamilton and Brief Psychiatric Rating Scales for AHR-800B and WIN 25,978 did not necessarily indicate that a patient was meaningfully improved clinically, or that a compound was an effective antidepressant. 12 references. (author abstract modified)

59692
AUTHORS: Arce, Luis.
ADDRESS: Rollman Psychiatric Institute, 3009 Burnet Avenue, Cincinnati, Ohio 45219
TITLE: Indoklon: convulsive therapy; experimental-clinical studies.
SOURCE: Psychosomatics.
SOURCEID: 11(4):358-360, 1970.

Experimental and clinical use of a fluorinated ether distributed under the commercial name of Indoklon is reviewed, and its effectiveness as a somatic drug in convulsive therapy is evaluated. Good results are reported in animals and humans when the preparation was used as an alternate method for electroshock procedures, with some objective and subjective advantages noted. The drug is given by inhalation and produces minimal untoward reactions and complications; intravenous administration is still in the investigational stage. No deaths have been reported in either experimental or clinical studies. 9 references.

60268
AUTHORS: Zaleski, Witold A.
ADDRESS: Alvin Buckwald Mental Retardation Unit, University of Saskatchewan, Saskatoon, Saskatchewan, Canada
TITLE: A clinical evaluation of mesoridazine in mentally retarded patients.
SOURCE: Canadian Psychiatric Association Journal (Ottawa).
SOURCEID: 15(3):319-322, 1970.

The present study was designed as a clinical evaluation of mesoridazine, 2-methylsulfinyl-10-(2'-N-methyl-piperidyl-2ethyl-1') phenothiazine, in mentally retarded patients, a group for whom the effects of this drug have not been investigated. Forty nine patients (of age range 9 to 64 years) with diagnosis of mental retardation associated with severe psychotic, emotional and behavioral disorders, participated in the study. A 2 week drug free period preceded administration of the test drug. Psychiatric, physiological and laboratory evaluations were made during the investigation. Results indicate that mesoridazine is an effective drug in the control and treatment of behavioral disorders and psychotic reactions in mentally retarded patients. 12 references.

62789
AUTHORS: Williams, Hugh R.
ADDRESS: Narcotic Addiction Foundation of British Columbia, Vancouver, British Columbia, Canada
TITLE: Using methadone to treat the heroin addict.
SOURCE: Canada's Mental Health (Ottawa).
SOURCEID: 18(2):4-9, 1970.

Of the programs used in treatment of heroin addiction--low methadone maintenance; high methadone maintenance; outpatient withdrawal; cyclazocine; and Drug Free House, the 2 major programs using methadone are the subjects of this report. The other 4 programs are discussed briefly, including successes, problems and disadvantages. The basic philosophy of the treatment program is that drug abuse must first be controlled if any success is to be achieved in bringing about social changes in the addict. This control is achieved through the use of methadone. Evaluation of the programs is made in terms of extent of drug abuse, employment, and criminal activity. Drug control assessment for 80 patients who remained in the low methadone maintenance program for 2 months or longer showed improvement: 60% had no illicit drug use, while 24% showed 1 instance of abuse; 64% of the employable were employed full time, part time, or were housewives; and criminal activity decreased in 66% of the treatment population. Eighty two addicts were treated in the high methadone maintenance program. Evaluation of this program showed successful results, also: 54% showed no illicit drug use while 22% showed only 1 or 2 abuses; 70% of the employable were employed full time, part time, or were housewives; and criminal activity decreased in 70% of the treatment population. It is concluded that the 2 methadone treatment programs offer unprecedented hope for the narcotic addict. The experience gained from the programs indicates that older, more motivated addicts show great improvement on the low maintenance program. A high level maintenance is justified for less motivated, hard core addicts who have proved resistant to all other efforts at rehabilitation. 2 references. (Author abstract modified)

63022
AUTHORS: Medoff, Joseph.
ADDRESS: Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pennsylvania 19107
TITLE: A double-blind evaluation of the anti-emetic efficacy of benzquinamide, prochlorperazine and trimethobenzamide in office practice.
SOURCE: Current Therapeutic Research.
SOURCEID: 12(11):706-710, 1970.

In a double-blind comparative study, 65 subjects with nausea and vomiting of various etiologies were selected from a private office population and randomly assigned to benzquinamide, trimethobenzamide, or prochlorperazine. The superiority of the response to benzquinamide over responses to the 2 control drugs is statistically significant according to a chi square test (p less than 0.001). The only side effect encountered in the present study, drowsiness, affected 1 patient on oral benzquinamide, 2 on trimethobenzamide and 4 on prochlorperazine. It is concluded from the present findings that benzquinamide is a well tolerated, effective antiemtic agent well suited for use in medical office practice. 6 references. (Author abstract)

58968
AUTHORS: Arbitman, E.; Yurtcu, A.; Lehmann, H. E.; Sterlin, C.; Ban, T. A.; Jarrold, Louise.
ADDRESS: Queen Elizabeth Hospital, Montreal, Quebec, Canada
TITLE: Protriptyline in the treatment of chronic schizophrenic patients.
SOURCE: Current Therapeutic Research.
SOURCEID: 12(3):131-135, 1970.

Three studies were designed and conducted to verify the possible usefulness of protriptyline hydrochloride (N-5-methyl-5H -dibenzocycloheptene-5-propylamine), a tricyclic antidepressant compound, in the treatment of chronically hospitalized psychotic patients with depressive and/or apathetic features. In the first study, protriptyline was compared with desmethylimipramine, a standard tricyclic antidepressant drug. In the second, the differential therapeutic effectiveness of a protriptyline and perphenazine combination and each alone were studied. A third study was conducted to reveal the range of therapeutic activity and safety of the combination in long term treatment. Method, procedure and results are described for each study. A protriptyline and perphenazine combination might be useful in certain chronic psychotic patients, especially those with overt manifestations of depression and excitement. 7 references.

59102
AUTHORS: Short, C. A.
ADDRESS: Mental Welfare Office, County Borough of Newport, Monmouthshire, England
TITLE: Schizophrenia.
SOURCE: Nursing Times.
SOURCEID: 66(13):396-398, 1970.

A case history is described, of a mental patient named Bob, who suddenly developed symptoms of schizophrenia when he was 21 and has spent the last 8 years in and out of mental institutions. The schizophrenia developed from a combination of the unstable relationship with his dominating father and the stress of relations with his girl friend, of whom the father disapproved. She became pregnant as the result of intercourse with Bob and procured an abortion, which produced feelings of guilt in Bob. To escape the situation, he retreated into a world of schizophrenic fantasy. His symptoms during various admissions included hallucination, messianic delusions, depression, and aggression (he sometimes attacked members of the staff or other patients and threatened his parents and his doctor). After each admission, he was given various drugs, and sometimes electroconvulsive therapy, and was able to return home after a few weeks. None of the aftercare medications prescribed was effective, however, because Bob eventually discontinued their use. In 1967, the medication was changed to fortnightly injections of fluphenazine enanthate, which made supervision of medication much easier. He began to show lasting improvement when he entered intensive group therapy where be gained insight into his problems. Although he still requires occasional hospital treatment, the necessity for it is becoming less frequent and he is making satisfactory progress.

60208
AUTHORS: Bassidakis, N. C.; Kondakis, X.; Papanastassiou, A.; Michalakeas, A.
ADDRESS: The State Mental Hospital of Athens, Daphni, Attica, Greece
TITLE: Withdrawal of antipsychotic drugs from chronic psychiatric patients.
SOURCE: Bulletin of the Menninger Clinic.
SOURCEID: 34(4):216-222, 1970.

Tranquilizing drugs were instantaneously withdrawn from 43

chronic psychotic patients of both sexes and for a period of 9 months in order to study the effects which revealed that 25 or 58.1% of these relapsed at various intervals against 14 or 34.1% of the control group that lived under the same conditions and in the same hospital. No placebo was used. There was no withdrawal syndrome manifested in the experimental group. Of the variables studied, the age at the onset of illness in the case of schizophrenia and the chronological age of all patients studied influence the phenomenon of relapse and its timing to a statistically significant level. Marked differences were also found in the number of paranoid schizophrenics between the relapsed and the nonrelapsed group, being more numerous in the latter. The chronicity of the illness and the factor of occupation do not seem to influence relapses. 6 references. (Author abstract)

60240
AUTHORS: Greenbau, Gerald H. C.
ADDRESS: Department of Psychiatry, The Hospital for Sick Children, 555 University Avenue, Toronto 2, Canada
TITLE: an evaluation of niacinamide in the treatment of childhood schizophrenia.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(1):89-92, 1970.

A controlled double-blind study on the value of niacinamide in the treatment of childhood schizophrenia is reported in which 57 schizophrenic children were evaluated clinically and psychologically before and after a 6 month administration of niacinamide. They were separated into 3 groups: those given niacinamide, those given niacinamide plus a tranquilizer, and those given a placebo. There was no significant difference attributable to niacinamide; also, tests for the "mauve factor" in the urine of 28 of the children were negative. 20 references. (Journal abstract modified)

60659
AUTHORS: Goldberg, G. J.; Brooke, G.; Townsend, H. R. A.; Brahma, R. K.; Hill, G. B.
ADDRESS: Goodmayes Hospital, Barley Lane, Goodmayes, Ilford, Essex, England
TITLE: A comparison of oxypertine and chlorpromazine in chronic schizophrenia.
SOURCE: Acta Psychiatrica Scandinavica (Kobenhaven).
SOURCEID: 46(2):126-135, 1970.

A clinical trial compared the effects of oxypertine with those of chlorpromazine in 40 chronic withdrawn schizophrenic patients. Assessments of patient's psychiatric condition were made by 2 psychiatrists using part A of the wing scale and by nursing staff using the venables scale. In 18 patients these clinical assessments were supplemented by serial electroencephalographic recordings and measurements of galvanic skin response. Results seem to be related to the previous level of neuroleptic therapy required to control abnormal behavior. Thus during the trial, patients who were on previous high doses of phenothiazines became more active on placebo and low doses of active drugs; then withdrew again on higher dosages. A possible explanation for this effect has been put forward. The changes in the average wing scores throughout the trial gave little indication of change in the symptomatology and this was confirmed by statistical analysis. This would suggest that major tranquillizers like chlorpromazine control overactivity or tension in chronic schizophrenic patients rather than the fundamental symptoms. The results do not indicate any difference between the 2 drug groups in any of the measurements. A nonphenothiazine compound, oxypertine (Integrin) could therefore be used as an alternative to chlorpromazine in those patients who are sensitive to chlorpromazine. 23 references. (Author abstract)

62108
AUTHORS: Earle, Ann; Lynn, Frances; Manaser, Janice; Selby, Mildred.
ADDRESS: Faculty of Medicine, Columbia Univ., New York, N. Y.
TITLE: The role of the psychiatric nurse in the rehabilitation of the schizophrenic patient.
SOURCE: Journal of psychiatric Nursing and Mental Health Services.
SOURCEID: 8(1):16-23, 1970.

The role of the psychiatric nurse in rehabilitation of schizophrenic patients is discussed. The etiology of schizophrenia is obscure; there are organic and environmental theories. In dealing with a patient, care must be taken not to stereotype him. Different types of therapy such as individual, group, psychodrama and psychoanlysis should be considered according to the needs of the individual. Psychotropic drugs have been used to quell nausea, reduce spasticity and relieve the symptoms of alcohol and drug withdrawals. Minor tranquilizers are usually recommended for calming schizophrenic patients without psychotic symptoms. Mechanical activities and the attitudes of those in contact with the patient are 2 most important considerations.

62406
AUTHORS: Boissenin, J. M.; Stael, P.; Poire, R.
ADDRESS: Centre psychotherapique de Sarreguemines, Frances
TRTITLE: /Is it feasible to treat certain potentially dangerous conditions by prolonged chemotherapy./
TITLE: Est-il envisageable de traiter certain etats dangereux potentiels par une chimiotherapie d'action prolongee.
SOURCE: Annales Medico-Psychogiques (Paris).
SOURCEID: 1(5):776-781, 1970.

The possibility of treating certain potentially dangerous conditions by prolonged chemotherapy is studied. Such treatment is significant for reputed dangerous patients, those who have committed serious crimes (murder, rape) or who are susceptible to self and/or heteroaggressive acts, who are reinstated in society. Problems have arisen when such patients following reentry into society, fail to take or quit taking their medication. Fluphenazine oenanthate, the longest acting neuroleptic presently available, was used in the case history presented. This was a prototype observation of a patient who improved with the method. It is noted that an important factor seems to be the moderation of dosage. 1 reference.

62643
AUTHORS: Sterlin, C.; Ban, T. A.; Lehmann, H. E.; Saxena, B. M.
ADDRESS: Hopital des Laurentides, L'Annonciation, Quebec, Canada
TITLE: Psychometric and psychophysiological test in the prediction of therapeutic responsiveness in the schizophrenias.
SOURCE: International Journal of Psychobiology.
SOURCEID: 1(1):85-91, 1970.

An attempt was made to reveal the differentiating features in thiothixene and chlorpromazine responsive patients by employing the Verdun psychophysical test battery which consists of 11 tests, measuring 20 different functions and to reveal the differentiating features in thiothixene, chlorprothixene and thioproperazine responsive patients by employing the Verdun conditioning test battery which measures 8 psychophysiological functions. In a clinical study with 30 schizophrenic patients thiothixene and thioproperazine were found to improve significantly agitation, anxiety, tension, suspiciousness, hallucinations and delusions. The overall efficacy of thiothixene was somewhat superior to thioproperazine in the dosage range used. The psychophysiological findings were in line with former results in which therapeutic responsiveness to phenothiazines was seen to be related to preserved external inhibition and therapeutic responsiveness to thiothixene to preserved inhibitory mechanisms in general, i.e., external and internal inhibition. Furthermore, the presence and extinguishability of the orienting reflex was found to be an unspecific indicator, associated with a

favorable therapeutic outcome independent of the treatment regime employed. 13 references. (Author abstract)

62664
AUTHORS: Saarma, J.
ADDRESS: Tartu State University, USSR
TITLE: The practical use of higher nervous activity data in the pharmacotherapy of psychoses.
SOURCE: International Journal of Psychobiology.
SOURCEID: 1(1):35-38, 1970.

In connection with the continuously growing number of psychotropic drugs one of the most pressing problems in contemporary psychiatry is to select the best compound for treating a given patient. The individual peculiarities of the neurophysiological structure of the disease undoubtedly exercise a certain influence on the dynamics of recovery and its degree, as achieved by any given treatment. A search for complementary prognostic criteria among the data gained from various neurophysiological investigations of the patient is therefore well justified. In the psychiatric clinic at Tartu various methods of treatment in schizophrenia have been conducted. The data from complex investigations in more than 400 patients have been calculated as to their prognostic value for insulin, chlorpromazine, trifluoperazine, levomepromazine, haloperidol and combined chlorpromazine and trifluoperazine treatment. To investigate the higher nervous activity, learning, association, calculation, proofreading and motor reflex tests were applied. Altogether 14 parameters, characterizing the functional state of excitatory and internal inhibitory processes in different cortical mechanisms were assessed. To characterize the autonomic state, pulse and respiration rates, blood pressure, electrical skin resistance and the index of respiratory cardiac arrhythmia were measured. The autonomic component of the orienting reflex was measured in order to assess the reactivity of the autonomic system. Analysis of the findings permits some practical conclusions: weakening of the excitatory process, (signs of transmarginal inhibition) as well as disturbances of internal inhibition. 4 references. (Author abstract modified)

62935
AUTHORS: Greiner, A. C.
ADDRESS: Department of Medicine, Riverview Hospital, Essondale, British Columbia, Canada
TITLE: Schizophrenia and the pineal gland.
SOURCE: Canadian Psychiatric Association Journal (Ottawa).
SOURCEID: 15(5):433-447, 1970.

The formation of diffuse melanosis, a pigment deposit, and its biophysical role are investigated in hopes of finding the key to classification of schizophrenia. The discovery and nature of the eye skin syndrome producing pigmentation and grossly visible corneal and lens opacities in schizophrenics who had been treated with chlorpromazine and phenothiazines is traced. Autopsy material from schizophrenic patients and necropsy material from nonschizophrenics were examined with the conclusion that phenothiazine medication intensifies abnormal pigmentation. Research was done on the nature of this pigment, where it is produced, how it affects the bodily function, and how to prevent adverse effects. Further research was conducted on the relationship of schizophrenia and copper metabolism. The work centered around the lacking enzyme, methyltransferase, and the presence of harmala alkoids. The locus of defect is considered to be the pineal gland. 76 references.

63186
AUTHORS: Grosser, H. H.
ADDRESS: Psychiatric Hospital, 6348 Herborn, West Germany
TITLE: Experience of psychiatric management of schizophrenia with fluphenazine decanoate.

SOURCE: Diseases of the Nervous System.
SOURCEID: Supplement, 31(9):32-36, 1970.

Experience of psychiatric management of schizophrenia with fluphenazine decanoate was obtained in a double-blind controlled trial to compare the effects of fluphenazine decanoate with fluphenazine enanthate. Sixty one female patients, divided into 2 diagnostic groups, entered the trial: 1) acute schizophrenia, recently admitted (38 patients), 2) chronic schizophrenia, hospitalized for more than 2 year (23 patients). Observed changes were rated under 5 different criteria described in detail and statistically analyzed. Changes within each group over time were analyzed and comparisons between drugs were made. Results of the trial suggest: 1) the overall therapeutic effectiveness of the 2 drugs is very similar; 2) there seems to be no significant difference between the 2 drugs as regards their influence in special aspects of psychotic behavioral disorders; 3) within similar patient populations, the length of effectiveness of a single injection appeared to be practically the same for both drugs but some striking differences were observed between the 2 diagnostic categories; and 4) general side-effects occurred under both drugs but there were significant differences. Within the framework of this investigation, the decanoate showed equal or even better antipsychotic properties than the enanthate. The highly significant lower incidence of extrapyramidal side-effects, however, is the most convincing proof of its superiority in clinical practice. (Author abstract modified)

63589

AUTHORS: Faleni, Ricardo A.
ADDRESS: Instituto Nacional de Salud Mental, Hospital Nacional Braulio A. Moyano, Buenos Aires, Argentina
TITLE: The use of high doses of fluphenazine in the treatment of psychotic patients.
SOURCE: Psychosomatics.
SOURCEID: 11(5):496-499, 1970.

Fluphenazine is a potent neuroleptic whose therapeutic action at high doses is beneficial to patients who are resistent to other treatments or who have been hospitalized for long periods. This dosage is far more efficacious than the normal one of low doses and does not cause more severe side effects; on the contrary they are similar or even fewer than with the low doses. Though the signals indicating presence of extrapyramidal side effects are rapid they do not seem to be related to its therapeutic efficacy, as it is necessary to keep a certain dose, established to be about 400-600m/day, for a month at least to obtain results. The side effects appear sooner but are similar to those produced by other incisive neuroleptics and give way to specific medication. The best results were obtained in the treatment of acute delirious syndromes such as paranoid reaction and schizophrenic reaction, hypochondriac deliriums of prolonged evolution and in schizophrenia. Improvement was shown by 61% of the patients. Out of 21 patients, 8 were discharged cured and 5 improved. Another 5 showed no changes and two discontinued the treatment. Only 1 patient became worse. 13 references. (Author abstract modified)

59015
AUTHORS: Mucha, H.; Lange, E.; Bonitz, G.
ADDRESS: Neurologisch-Psychiatrische Klinik und Poliklinik der Medizinischen Akademie "Carl Gustav Carus", Dresden, Germany
TRTITLE: /Amitriptyline in psychiatric therapy./
TITLE: Amitriptylin in der psychiatrischen Therapie.
SOURCE: Psychiatrie Neurologie und medizinische Psychologie (Leipzig).
SOURCEID: 22(3):116-120, 1970.

The clinical application of amitriptyline (Tryptizol) in the treatment of psychoses and agitated depressions is reported in 65 cases. Differences in the effects of imipramine and amitriptyline are pointed out, and the efficacy of the latter, in agitated depressions with high degrees of anxiety, is particularly marked. Optimum effects and indications for use of imiprazine and chlorpromazine are also described. 16 references. (author abstract modified)

59053
AUTHORS: Carroll, Bernard J.; Mowbray, Robert M.; Davies, Brian.
ADDRESS: Dept. of Psychiatry, University of Melbourne, Royal Melbourne Hospital, Victoria 3050, Australia
TITLE: Sequential comparison of L-tryptophan with E.C.T. in severe depression.
SOURCE: Lancet (London).
SOURCEID: No. 7654:967-969, 1970.

Electroconvulsive treatment (ECT) or L-tryptophan were used to treat 12 pairs of severely depressed patients matched for age, sex and severity of symptoms for 3 weeks in a sequential trial. All patients receiving ECT improved considerably within 3 weeks. One of the patients treated with L-tryptophan was free of symptoms at the end of the time; 2 other patients had improved somewhat, while 3 other patients were more severely ill than when entering the trial. Electroconvulsive treatment was given to 11 of these 12 patients and all improved rapidly. Side effects during L-tryptophan treatment were generally mild (nausea, lightheadedness, visual blurring). Results of the sequential trial showed that the upper boundary of the sequential graph was crossed in favor of ECT after 12 pairs of patients had been assessed. Females tended to have higher initial Hamilton rating scores than males, and the females on tryptophan were rated as significantly more severely depressed than the males. Electroconvulsive treatment was found to be superior to the tryptophan regimen, both in the sequential analysis and on comparison of the group mean data. 28 references.

59054
AUTHORS: Paul, Michael I.; Cramer, Hinrich; Goodwin, Frederick K.
ADDRESS: Laboratory of Chemical Pharmacology, National Heart Institute, NIH, Bethesda, Md.
TITLE: Urinary cyclic A.M.P. in affective illness.
SOURCE: Lancet (London).
SOURCEID: No. 7654:996, 1970.

Preliminary findings on the urinary excretion of cyclic adenosine monophosphate (AMP) in patients treated with L-dopa and lithium carbonate studied longitudinally are presented. Drug related changes were paralleled in both 24 hr output and in the concentration of cyclic AMP. L-Dopa produced an increase in urinary cyclic AMP in depressed patients. Cyclic AMP increased within a day of L-dopa administration and decreased rapidly after reduction in dose, with the extent of change approximately dose related. Two depressed patients who showed some improvement on L-dopa had considerably greater dopa - induced increases in cyclic AMP excretion than in 2 patients who did not respond. Patients treated with lithium carbonate

also showed considerable changes in excretion of urinary cyclic AMP. Manic patients who improved on lithium showed substantial reductions in urinary cyclic AMP, while depressed patients who improved on lithium showed substantial rises in cyclic AMP. In one patient who became more depressed on lithium, there was a decrease in urinary cyclic AMP. It appeared that the cyclic AMP changes in the lithium - treated patients are consistent with previous data on differences in manic and depressive groups and reflect clinical change rather than drug effect per se. 10 references.

60263
AUTHORS: Melia, P. I.
ADDRESS: St. Patrick's Hospital, Dublin 8, Ireland
TITLE: Prophylactic lithium: a double-blind trial in recurrent affective disorders.
SOURCE: British Journal of Psychiatry (London).
SOURCEID: 116(535):621-624, 1970.

An attempt was made to test, by means of a double-blind trial, the hypothesis that lithium reduces the frequency of manic and depressive episodes in patients with hitherto frequently recurring affective disorders. The criteria required for the inclusion of patients into the group studied are described. The double-blind trial was performed on the remaining 18 patients. The significance of the difference between the lengths of remissions achieved by the lithium group and the dummy group was measured by the Mann - Whitney U-test. The superiority of lithium over the dummy just failed to be significant at the 5% level, 0.10 less than p less than 0.05. One case of serious toxicity occurred. The patient recovered rapidly and completely. The design and result of the trial is discussed. 15 references. (Author abstract modified)

60266
AUTHORS: Grof, P.; Schou, M.; Angst, J.; Baastrup, P. C.; Weis, P.
ADDRESS: McMaster University, The Hamilton Psychiatric Hospital, P.O. Box 585, Hamilton, Ontario, Canada
TITLE: Methodological problems of prophylactic trials in recurrent affective disorders.
SOURCE: British Journal of Psychiatry (London).
SOURCEID: 116(535):599-603, 1970.

Methodological problems of prophylactic trials in recurrent affective disorders are discussed. Designs used with success in therapeutic experiments are not necessarily suited to prophylactic trials, which offer special problems and require that new experimental procedures and statistical methods be employed. Controlled prophylactic trials may be carried out in 2 different ways: concurrent comparison of the course of the disease in an experimental patient group and a control group, and studies on a single group of patients during successive control periods and drug periods. Each procedure offers advantages and disadvantages; ethical problems are of particular importance. Special attention should be given to the definition of patient samples and to the criteria chosen for recording a relapse. Experiments must be designed with consideration of the role played by nonpharmacological factors: spontaneous variation of the disease course during treatment, the psychological effects of the treatment, and observer bias. 41 references. (Author abstract modified)

60267
AUTHORS: Angst, J.; Weis, P.; Grof, P.; Baastrup, P. C.; Schou, M.
ADDRESS: Psychiatrische Universitatsklinik, CH-8008 Zurich, Lenggstrasse 31, Switzerland
TITLE: Lithium prophylaxis in recurrent affective disorders.
SOURCE: British Journal of Psychiatry (London).
SOURCEID: 116(535):604-614, 1970.

Data are presented from psychiatric clinics in Glostrup, Prague

and Zurich for 244 patients who suffered from recurrent affective disorders and were treated prophylactically with lithium. Lithium effects were evaluated by 2 methods: intraindividual comparisons of the disease course during lithium treatment and during control periods of similar length before lithium and multiple regression analyses of cycle and episode duration with lithium as 1 of the variables. Lithium treatment led to a pronounced and statistically significant reduction in the number of both episodes and hospital admissions. The regression analyses confirmed previous observations on the course of recurrent affective psychoses. Duration of cycles descreased with increasing age at first episode and increasing number of previous episodes. There was a slight decrease of episode duration with increasing number of episodes. Lithium treatment led to a statistically significant prolongation of the cycles, considerable in manic-depressive and recurrent depressive psychosis, and moderate in schizo-affection psychosis. In manic-depressive patients, there was a statistically signficant shortening of episodes during lithium treatment. The results afford strong evidence that lithium is an active prophylactic agent in recurrent affective disorders. 39 references. (Author abstract modified)

60859
AUTHORS: Johnson, Gordon; Maccario, Micheline; Gershon, Samuel; Korein, Julius.
ADDRESS: Department of Psychiatry and Neurology, New York University School of Medicine, 550 First Avenue, New York, N. Y. 10016
TITLE: The effects of lithium on electroencephalogram, behavior and serum electrolytes.
SOURCE: Journal of Nervous and Mental Disease.
SOURCEID: 151(4):273-289, 1970.

The effect of acute and chronic administration of lithium carbonate on electroencephalogram (EEG), behavior and serum electrolytes was studied in 10 patients. Five patients, 3 of whom are manic-depressive in the manic phase, and 2 who were schizo - affective in the excited phase, received lithium as part of a double blind, controlled evaluation of lithium and chlorpromazine in manic states. The remaining 5 were patient volunteers in a study of the effect of lithium on electrolyte metabolism. EEG studies were carried out using a 16 channel model 6B electroencephalograph and, in addition, the data were placed on magnetic tape using an Ampex FR-1200, 14 channel tape recorder. A base line EEG was followed by ingestion of 750mg of lithium carbonate, and after 1 and one-half hours an acute postdrug EEG was repeated and blood was drawn for serum lithium and electrolyte analyses. A third record was taken after chronic administration of lithium. Acute lithium administration produced only minimal EEG changes without the presence of behavioral change. Transient fluctuations in serum electrolytes were observed. Following chronic administration, the presence and severity of the EEG changes were most highly correlated with neurotoxicity. EEG changes observed included alterations in the alpha activity, diffuse slowing, accentuation of focal abnormality and changes in average evoked response. Although there was some relationship between serum lithium levels and EEG changes, patient specific variations, cerebral organic disease and, possibly, sodium balance are important variables. Clinical psychiatric change was not related to EEG changes. The problem of drug specific EEG changes and possible modes of action of lithium were discussed. 34 references. (Author abstract modified)

61682
AUTHORS: Lipton, Morris A.
ADDRESS: Department of Psychiatry, University of North Carolina, School of Medicine, Chapel Hill, N. C.
TITLE: Affective disorders: progress, but some unresolved questions remain.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):357-358, 1970.

In a brief comment progress made in the treatment of affective disorders in the past decade is reviewed. Since pharmacological agents that ameliorate depression and mania appear to act upon and alter the concentration and metabolism of the biogenic amines in what are presumably corrective directions, it may be inferred that in the affective disorders there exists a chemical pathology related to the compounds. Electric convulsive therapy and chemical antidepressants are beneficial. Some questions, such as why exaggerated mood swings occur in manic-depressives and what the role of memory and cognition is, remain unanswered. Fortunately, scientifically capable investigators are interesting themselves in these problems.

61683
AUTHORS: Schildkraut, Joseph J.
ADDRESS: Massachusetts Mental Health Center, Harvard Medical School, Boston, Massachusetts
TITLE: Neurochemical studies of the affective disorders: the pharmacological bridge.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):358-360, 1970.

Pharmacology is described as a bridge joining neurochemistry with clinical psychiatry. It has been suggested that a disturbance in the synthesis, metabolism, or utilization of one or another of the biogenic amines might occur in at least some depressions and manias. Amino acid precursors of biogenic amines have been used in depressions, and inhibitors of biogenic amine synthesis in manias. The long-term treatment required for the antidepressant imipramine may be modified with the use of thyroid hormone. Further investigation is indicated. 1 reference.

62347
AUTHORS: Bourgeois, M.; Hebert, A.; Maisondieu, J.
ADDRESS: Centre Jean-Abadie, 33 - Bordeaux, France
TRTITLE: /Pseudo-demented, convulsive-curable depression of the aged./
TITLE: Les depressions seniles pseudo-dementielles convulsivo-curables.
SOURCE: Annales Medico Psychologiques (Paris).
SOURCEID: 1(5):751-759, 1970.

Observations are presented on 3 cases of pseudodemented, senile depressives with curable convulsive states. The patients, females of age 70 years or more, have a symptomology of dementia dominated by stupor and inhibition. Of the conditions defining depression, only psychomotor inhibition is present. The conditions have persisted and are resistant to antidepressives. Only electroconvulsive therapy has removed the symptoms but it has not prevented recurrences and it is possible that the treatment has increased the frequency of the symptoms. Anesthesia by thiopental and propanidid intravenous administration, and electroshock treatment, are discussed. 19 references.

62348
AUTHORS: Van der Velde, Christiaan D.
ADDRESS: Abraham Ribicoff Research Center, Norwich Hospital, Norwich, Connecticut 06360
TITLE: Effectiveness of lithium carbonate in the treatment of manic-depressive illness.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):345-351, 1970.

The responses to lithium carbonate of 75 manic-depressive patients are reported in a study to determine the effectiveness of this drug in treatment of manic-depressive illness. Lithium carbonate was found to be highly effective in the acute manic state but without merit in the treatment of acute depression. Its efficacy

was inversely related to age. Response to the drug varied in some patients; a positive response at one time was no guarantee for a similar response in subsequent trials. The possibility of different biochemical states underlying similar clinical states is discussed. 7 references. (Journal abstract modified)

62349
AUTHORS: Platman, Stanley R.
ADDRESS: South Beach Psychiatric Center, 600 Albany Avenue, Brooklyn, New York 11203
TITLE: A comparison of lithium carbonate and chlorpromazine in mania.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):351-353, 1970.

In a comparison of lithium carbonate and chlorpromazine in treatment of mania, 13 patients were treated with lithium carbonate and 10 with chlorpromazine in a double-blind, randomly selected drug trial. Lithium carbonate proved superior to chlorpromazine on all 6 parameters selected from an objective rating scale. The scales used were: belligerence - negativism, somatic complaints, grandiosity, denial, sleep, and severity of illness. The problems militating against a valid research trial utilizing these medications in manic patients are discussed. 7 references. (Journal abstract modified)

62350
AUTHORS: McCabe, Michael S.; Reich, Theodore; Winokur, George.
ADDRESS: Department of Psychiatry, Washington University School of Medicine, St. Louis, Missouri 63110
TITLE: Methysergide as a treatment for mania.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):354-356, 1970.

A limited study of the effectiveness of methysergide as a treatment for mania has been made as a result of reports of dramatically successful treatment with the drug. Twelve patients with acute mania were treated with doses of methysergide that had been reported to be effective. Only 1 patient recovered; all of the others required further therapy. The results suggest that methysergide administered orally over a 4 to 5 day period is not an effective agent in the treatment of manic-depressive illness, manic type. Possible reasons for the failure of methysergide to terminate the manic episode are discussed. 11 references. (Journal abstract modified)

62352
AUTHORS: Aronoff, Michael S.; Epstein, Richard S.
ADDRESS: New York State Psychiatric Institute, Columbia-Presbyterian Medical Center, 722 West 168th Street, New York 10032
TITLE: Factors associated with poor response to lithium carbonate: a clinical study.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(4):472-480, 1970.

A clinical study of factors associated with a poor or irregular response to lithium carbonate by manic patients is reported. Eighteen patients with intermittent manic illness were treated with lithium on a regular basis for an average of 2 years. Twelve of the patients were diagnosed as manic- depressive, circular type, and 6 as schizoaffective. During the initial phase of treatment, 7 patients were on a double- blind protocol, 8 were treated single-blind, and 3 were treated with open medication. An attempt was made to characterize factors related to suboptimal treatment response. A "crisis" state in reaction to a stressful event was observed in suboptimal responders at the time of lithium failure, and a concurrent rise in urinary 17-hydroxycorticosteroid excretion was noted. Possible relationships among lithium ion, metabolic factors,

and altered clinical state are discussed. 24 references. (Author abstract modified)

63138
AUTHORS: Fieve, Ronald R.
ADDRESS: Clinical Psychiatry Department, College of Physicians and Surgeons, Columbia University, New York, N. Y.
TITLE: Lithium in psychiatry.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:375-412, 1970.

The clinical effectiveness of lithium treatment in various affective psychiatric disorders is examined, and specific physiological and psychological effects are identified. It appears that lithium's well established special chemical efficacy against mania will lead to an investigation of its use in screening out the manic component of other psychiatric illnesses which, in turn, may lead to a reduction of the current diagnostic confusion in psychiatry. It is not a wonder drug, nor can it be administered indiscriminately. The problems it has created, however, are overshadowed by the fact that it has opened diverse areas of psychopharmacological research. 95 references. (Journal abstract modified)

63139
AUTHORS: Kline, Nathan S.
ADDRESS: Research Center, Rockland State Hospital, Orangeburg, New York
TRTITLE: /Lithium: critical evaluation./
TITLE: Safe and prophylactic.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:412-423, 1970.

Critical comment is made on Fieve's paper evaluating the effectiveness of lithium treatment for various affective disorders. It is concluded that lithium is one of the safest of drugs for psychiatric use. The increase of relapse frequency when lithium is discontinued is the strongest evidence for its prophylactic action. Over half of a sizable group of lithium stabilized manic-depressives and recurrent depressions in a double-blind study relapsed on placebo within 5 months as contrasted with no relapses in those kept on lithium. 15 references. (Journal abstract modified)

63140
AUTHORS: Ottosson, Jan-Otto.
ADDRESS: Psychiatry Department, University of Umea, Umea, Sweden
TRTITLE: /Lithium: critical evaluation./
TITLE: A methodological dilemma.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:419-423, 1970.

Critical comment is made on Fieve's paper in which the therapeutic effectivensss of lithium treatment in various affective disorders is evaluated. It appears that prophylaxis may imply early treatment of mood swings or stabilization of a recent remission or real prevention. Double-blind studies with simultaneous control series are needed for a final evaluation of the prophylactic action of lithium. 7 references. (Journal abstract modified)

63141
AUTHORS: Shepherd, Michael.
ADDRESS: Department of Epidemiological Psychiatry, Institute of Psychiatry, University of London, London, England
TRTITLE: /Lithium: critical evaluation./
TITLE: A prophylactic myth.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:423-427, 1970.

Critical comment is made on Fieve's paper in which the therapeutic effectivenses of lithium treatment in various affective disorders is noted. It is concluded that lithium carbonate exercises a prophylactic action in the treatment of manic-depressive illness is an attractive but unproved hypothesis. 4 references. (Journal abstract modified)

63142
AUTHORS: Fieve, Ronald R.
ADDRESS: Clinical Psychiatry Department, College of Physicians and Surgeons, Columbia University, New York, N. Y.
TRTITLE: /Lithium in psychiatry./
TITLE: Reply to discussants.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:425-427, 1970.

Reply is made to critical appraisals of the author's paper on the effectiveness of lithium therapy in various affective disorders. It is reiterated that the author prefers to identify himself with the skeptical investigators of lithium and to resolve his own scientific skepticism by further studies, acknowledging the potential of lithium both in the clinical setting and as a research tool for the study of the biochemistry of the affective disorders. These studies must be double-blind, must employ a placebo control group with randomization of lithium and placebo to both unipolar and bipolar groups, and must have a followup of 2 or 3 years. The claim for lithium prophylaxis for depression and the advocacy of its unlimited use is at present premature and must await further clinical and toxicological studies. 9 references. (Author abstract modified)

63209
AUTHORS: Wittrig, John; Coopwood, William E.
ADDRESS: author address not given
TITLE: Lithium versus chlorpromazine for manics. Initiative and productivity versus tranquilization hospitalization.
SOURCE: Diseases of the Nervous System.
SOURCEID: 31(7):486-489, 1970.

The lack of acceptability of lithium as treatment for and prophylaxis against recurring mania more than 20 years after the beneficial effects were first noted is traced in part, to earlier adverse publicity when the drug was used as a salt substitute and blamed for some heart fatalities, also to a general fear of the toxicity of lithium by physicians who consider chlorpromazine to be an adequate and safe drug for therapy in the manic condition. Three case histories are presented to confirm the thesis that there are pronounced behavioral differences after chemotherapy in most manic-depressive patients, which is dependent upon whether they have been treated with chlorpromazine or lithium. The manic-depressive patient treated with lithium presents himself as a normal person, not as a treated patient who is now on tranquilizers. The 3 cases had previously been treated with large doses of chlorpromazine. Improvement in the patients' conditions, particularly in relation to behavior, was observed during lithium treatment, and adverse effects noted when the patients were returned to chlorpromazine treatment for various reasons. 12 references.

63588
AUTHORS: Wilson, Ian C.; Alltop, Lacoe B.; Riley, Lewis.
ADDRESS: North Carolina Department of Health, Raleigh, North Carolina
TITLE: Tofranil in the treatment of post alcoholic depressions.
SOURCE: Psychosomatics.
SOURCEID: 11(5):488-494, 1970.

The antidepressant efficacy of tofranil has been well documented, but information on the antidepressant efficacy and the

toxicity of tofranil pamoate in the treatment of an incarcerated female postalcoholic depressive population was sought in this investigation and the drug was found to be beneficial. Forty consecutive, female, postalcoholic depressives, aged less than 60 years, were randomly assigned to receive either tofranil pamoate liquid 50mg t.i.d. or equivalent dosage of placebo. The intensity of depression was evaluated initially then at weekly intervals over a 6 week study period on both an observer and subjective rating scale. Analysis of overall data showed both treatment groups to show significant improvement over time. However the active treatment group showed substantially and signficiantly more improvement on both rating scales than did the placebo group. In general the most substantial differences occurred in early weeks of treatment. Item analysis of items in both the Hamilton rating scale and self-rating depressive scale defined different patterns of individual symptom improvement. In general the physiological depressive symptoms showed the most remarkable beneficial response to tofranil therapy. 16 references. (Author abstract modified)

58969
AUTHORS: Case, W. George; Chung, Hack R.; Pereira-Ogan, Jorge A.; Koepke, Hans H.; Rickels, Karl.
ADDRESS: Psychopharmacology Unit of the Philadelphia General Hospital, Philadelphia, Pa.
TITLE: Molindone in anxious neurotic psychiatric outpatients: a pilot study.
SOURCE: Current Therapeutic Research.
SOURCEID: 12(3):136-141, 1970.

The present study attempts to establish an appropriate daily dosage of molindone and to gain some preliminary information as to its clinical efficacy in anxious, neurotic, low socioeconomic class clinic outpatients. Thirty two patients were treated with flexible dosages of molindone, ranging from 4mg to 20mg/day, in a single-blind dosage range study, using 4 times daily administration. Clinical improvement was measured with a 10 item neurotic Physician Questionnaire and a Doctor Disposition form. The most effective and best tolerated starting dose was 10mg/day with option to double the dose response. A comparable placebo group helped to demonstrate that molindone was most effective as an antianxiety agent in the initially sicker patients. 8 references.

59100
AUTHORS: Short, Colin A.
ADDRESS: Welfare Office, County Borough of Newport, Monmouthshire, England
TITLE: George: a man with an inadequate personality.
SOURCE: Nursing Times.
SOURCEID: 66(8):236-238, 1970.

The case history of a neurotic and introverted patient named George is described. As a child, he was shy; he admired but was ill at ease with his father; and he was strongly influenced by his mother, who overprotected him and was often in conflict with the father. When George was about 30, both parents died within 2 years of each other, a disturbing event which firmly established the basis for George's later breakdown. As an adult, he led a relatively normal life, worked as a clerk, married at age 40, and had 1 son. But he was timid and nervous, felt insecure in new situations, was prone to depression, became agitated at the thought of mixing with people, was obsessional, and had few interests. When his son was 3 years old, George suffered a mental breakdown. He had felt hostile toward the child who was beginning to disturb George's meticulously ordered world. After several months of outpatient treatment, George was hospitalized. Neither drugs nor intensive group therapy provided lasting improvement. During the next 5 years, he spent 2 and a half years as an inpatient. Finally a leucotomy was performed. After the operation, he became extremely apathetic about himself and his surroundings, so an intensive program of activities, including clerical work and evening social life, was set up for him and continued for several months. The activity program was successful; George was able to return home and work again. His prognosis appears favorable.

59359
AUTHORS: Chesrow, Eugene J.; Kaplitz, Sherman E.
ADDRESS: Oak Forest Hospital, Oak Forest, Illinois 60452
TITLE: Sustained-release tranquilizer therapy in hospitalized geriatric patients.
SOURCE: Journal of the American Geriatrics Society.
SOURCEID: 18(1):72-80, 1970.

Thirty hospitalized male geriatric patients with a variety of organic disorders causing moderate to severe anxiety tension states were treated with a sustained release form of meprobamate in a 3 week, placebo controlled, double blind study. Meprobamate in this

form (800mg per day in 2 doses) was significantly superior (clincally and statistically) to placebo for all factors tested (chiefly anxiety, tension, and insomnia) and the overall response. There were no significant side effects. Early in the study 10 patients (at the end of the study uncoded as 7 in the placebo group and 3 in the drug group) complained of lack of symptom relief, so the medication was changed to labeled sustained release meprobamate (Meprospan) without breaking the code. Marked improvement then occurred in 4 of this group. The important reduction in frequency of administration and the prolonged effectiveness of the drug were also great advantages in giving the hospital staff members more time for intensive care of the patients. 9 references. (journal abstract)

62321
AUTHORS: Rickels, Karl; Gordon, Paul E.; Zamostien, Bernard B.; Case, Warren; Hutchison, James; Chung, Hack.
ADDRESS: Psychopharmacology Unit, Philadelphia General Hospital, Philadelphia, Pennsylvania
TITLE: Hydroxyzine and chlordiazepoxide in anxious neurotic outpatients: a collaborative controlled study.
SOURCE: Comprehensive Psychiatry.
SOURCEID: 11(5):457-474, 1970.

Hydroxyzine, in a higher than usual daily dosage (400mg/day), was compared to chlordiazepoxide and placebo in a double-blind study conducted with 61 clinic and 69 general practice anxious neurotic outpatients. In contrast to studies in which hydroxyzine was administered in dosages of 150-200mg/day, the present study demonstrated a significant superiority of hydroxyzine over placebo. Accordingto many criterion measures, hydroxyzine appeared as effective as chlordiazepoxide in the symptomatic treatment of neurotic anxiety. The finding that largest drug - placebo differences occurred in middle class general practice patients, as opposed to lower social class clinic patients, and in patients of moderate to severe anxiety rather than in patients who were only mildly ill, has important implications for the selection of appropriate study populations for clinical trials of antianxiety agents. The differential dropout rates and differential reporting of side effects observed in the present study clearly favored chlordiazepoxide over hydroxyzine. The presence of disturbing side effects was the most important factor in the moderately high attrition rate (31% for hydroxyzine patients and 25% for chlordiazepoxide patients), and hydroxyzine patients reported significantly more side effects than either chlordiazepoxide or placebo patients at both the 2 and 4 week study periods. These findings would seem to indicate the need for further research to determine whether a dosage can be found at which hydroxyzine produces significantly more clinical improvement than placebo without causing the relatively large number of side-effects observed in the present study.6 references. (Author abstract modified)

63207
AUTHORS: Rickels, Karl; Hesbacher, Peter; Downing, Robert W.
ADDRESS: 203 Piersol Building, University Hospital, 3400 Spruce Street, Philadelphia, Pennsylvania 19104
TITLE: Differential drug effects in neurotic depression.
SOURCE: Diseases of the Nervous System.
SOURCEID: 31(7):468-475, 1970.

Investigation of differential drug effects in neurotic depression has been made in an attempt to determine whether or not initial psychopathology level, and particularly levels of anxiety and depression, exert any significant effects on drug treatment outcome. One hundred and seventy six patients treated for a 4 week period with amitriptyline, chlordiazepoxide, placebo, or the drug combination of both active agents, were divided into 4 subgroups according to their initial levels of depression and anxiety. Such subgrouping produced significant subgroup x drug interaction effects, indicating the drug combination to be most effective in the high depressed/ high anxious

subgroup, chlordiazepoxide to be most effective in the low depressed/high anxious subgroup and amitriptyline in the high depressed/low anxious subgroup. All agents, including placebo, were equally effective in the low depressed/low anxious patient group. These differences between active agents were not apparent when testing for main drug effects irrespective of initial level of anxiety and depression. By dividing the patients into 4 depressed subtypes, it was possible to separate not only the effects of the single antianxiety and antidepressant agents, but also the clinical effects produced by the drug combination from the effects produced by its single constituents. The clinical implication of such findings is striking. 6 references. (Author abstract modified)

63567
AUTHORS: Claghorn, James.
ADDRESS: Department of Psychiatry, Baylor University College of Medicine, Waco, Texas
TITLE: The anxiety-depression syndrome.
SOURCE: Psychosomatics.
SOURCEID: 11(5):438-441, 1970.

Two studies were made in psychoneurotic patients to relate anxiety with depression quantitatively. Results from utilizing the depression and Taylor anxiety scales of the Minnesota multiphasic personality inventory on 100 patients show that anxiety and depression are quantitatively related. As depression increases anxiety increases, but to a greater degree. An analysis was also made of the results of several psychotropic drug studies for the treatment of anxious/depressed patients. Drug effectiveness is equally apparent on anxiety and depression regardless of the class of drug, supporting the concept that these are unitary symptoms. Each symptom is virtually never present without the other. Drug choice depends on the relative degrees of anxiety and depression. The monoamine oxidase inhibitor drugs are useful in agitated depressions with obsessive personality characteristics. Electroconvulsive therapy is effective in retarded depression. Tybamate and meprobamate seem best used where anxiety is high and the depressive element relatively low. 16 references.

63592
AUTHORS: Zung, William W. K.
ADDRESS: Duke University Medical Center, Durham, North Carolina
TITLE: The pharmacology of disturbed sleep.
SOURCE: Psychosomatics.
SOURCEID: 11(5):470-472, 1970.

The pharmacology of disturbed sleep is reviewed. Laboratory characteristics of the all night sleep of normal subjects and of insomniacs are determined by the electroencephalogram and the electrooculogram, which makes it possible to calculate the percentage of time in the various stages of sleep - rapid eye movements. The characteristics of sleep in anxiety states and in depressive disorders are described. The effects of barbiturates, meprobamate and tricyclic antidepressants on the sleep of normal and psychiatric subjects are reveiwed in relation to effects on sleep stages and other pharmacological actions. 24 references.

63594
AUTHORS: Dickel, Herman A.
ADDRESS: University of Oregon Medical School, Portland, Oregon
TITLE: A survey of anti-anxiety agents used over the past 30 years.
SOURCE: Psychosomatics.
SOURCEID: 11(5):477-482, 1970.

The antianxiety agents used over the past 30 years in a psychiatric clinic are surveyed. The opinions expressed and conclusions drawn are based on treatment of a large group of private

ambulatory patients. The patients to be considered have been diagnosed as anxiety - neuroses, anxiety states, anxiety - tension states, anxiety - tension syndromes and related cases. Trends noted over the 30 year periodare depicted for: source of cases, age of patients, place of treatment, sex of patients, effects of medication, and other factors. The antianxiety agents in use in 1939, 1954, and 1969 are reviewed and compared. It is concluded from review of these drugs that the final and real answer has yet to come for patients with anxiety. The role of the physician is discussed. 9 references.

58963
AUTHORS: No author.
ADDRESS: Author address not given
TITLE: Amines that manipulate the neurotransmitters.
SOURCE: Medical World News.
SOURCEID: 11(20):19, 1970.

A study of alpha-hydrazino-alpha-methyl-beta-(3,4-dihydroxyphenyl)propionic acid (HMD) has demonstrated that it can reduce L-dopa dosage by blocking the conversion of L-dopa to dopamine through binding of dopa decarboxylase. It is also suspected that HMD reduces the frequency of unexplained relapses into akinesia occurring in patients on L-dopa, but it does not seem to eliminate the opposite episodes of involuntary choreiform movements of face, hands and feet. L-Dopa reaches its maximum therapeutic effect faster when HMD is added. Another synthetic amine, alpha-methylparatyrosine, interferes even earlier in the pathway from phenylalanine to tyrosine to dopa to dopamine to norepinephrine. By depleting norepinephrine in the CNS, alpha-methylparatyrosine may allow more precise investigation of the role of this substance in psychosis and in the effects of psychotomimetic drugs. Studies have shown that a single dose of alpha-methylparatyrosine abolishes the psychotomimetic effects of high doses of amphetamines. Volunteers given alpha-methylparatyrosine 5 days before amphetamine administration did not show the pressor effects of the stimulant, but hallucinatory action was potentiated.

58966
AUTHORS: Knopp, Walter; Paulson, George; Allen, J. Norman; Smeltzer, Donald; Brown, Frederick D.; Kose, William.
ADDRESS: Department of Psychiatry, Ohio State University, College of Medicine, Columbus, Ohio 43210
TITLE: Parkinson's disease: L-dopa treatment and handwriting area.
SOURCE: Current Therapeutic Research.
SOURCEID: 12(3):115-125, 1970.

00NCMHI, XJournal Article, XResearch Study, XMethodology, XFederal Support, NIH-8069, planimetric determination of handwriting area, ergotropic arousal, hythat handwriting area could be useful in monitoring the effects of L-dopa. Four groups of subjects, excited psychotic patients, medical students, parkinsonian patients and depressed psychotic patients, were reviewed in this survey. Patients were instructed to copy a nursery rhyme 3 times within 10 minutes. The area of each verse was measured and the median selected daily. Results delineate between group comparisons and within group comparisons. The handwriting of the parkinsonian patients before treatment is the smallest of the 4 groups; however, during L-dopa treatment it becomes significantly larger. This is a strikingly different trend than that observed in the other 3 groups. Possible explanations for this phenomenon are discussed. 21 references.

59001
AUTHORS: Kohler, W.
ADDRESS: Landeskrankenhaus, D-2447 Heiligenhafen (Holst.), Niobestrasse 15, Germany
TRTITLE: /Improved cerebral circulation and performance in a psychological experiment./
TITLE: Verbesserte Hirndurchblutung und Leistungszuwachs im psychologischen Experiment.
SOURCE: Nervenarzt (Berlin).
SOURCEID: 41(4):181-187, 1970.

The effect of a slow acting drug, Cosaldon (a combination of 1-hexyl-3,7-dimethylxanthine and nicotinic acid), on the improvement of cerebral circulation and nutrition is described. This drug, administered to 200 patients with psychiatric or neurological

disorders, was directed at improvement of mood and performance. The results revealed that, if it were administered early enough, a significant improvement in performance can be expected. However, this preparation cannot be effective in cases where irreversible cerebral changes have already taken place, either due to damage through an accident or the deterioration in aging, though it does not rule out improvement in some cerebral sclerotic cases. It is worthwhile to speculate on the effect this drug may have on aging, but it will take some years of investigation to provide the evidence. 47 references. (author abstract modified)

59020
AUTHORS: Van Woert, Melvin H.; Heninger, George; Rathey, Ulrich; Bowers, Malcolm B., Jr.
ADDRESS: Yale University School of Medicine, New Haven, Connecticut
TITLE: L-Dopa in senile dementia.
SOURCE: Lancet.
SOURCEID: No. 7646:573-574, 1970.

Since the mental behavior as well as motor status of 3 of 6 patients with both Parkinson's disease and senile dementia improved during L-dopa therapy, a clinical study of the therapeutic effect of L-dopa on 4 nonparkinsonian patients (3 with senile dementia and 1 with Alzheimer's disease) was conducted. Maximum daily doses were 4g per day (senile dementia) and 6g per day (Alzheimer's disease) for 2 months. No improvement was demonstrated in any of the 4 patients, and none developed dyskinesias during L-dopa treatment. The pathological changes in senile dementia associated with Parkinson's disease may be different from those in nonparkinsonian senile dementia. 5 references.

59021
AUTHORS: Schwarz, Gabriel A.; Fahn, Stanley.
ADDRESS: Dept. of Neurology, School of Medicine, University of Pennsylvania, Philadelphia, Pa. 19104
TITLE: Newer medical treatments in parkinsonism.
SOURCE: Medical Clinics of North America.
SOURCEID: 54(3):773-785, 1970.

Levodopa was used for more than 3 months in the treatment of 36 patients with parkinsonism. In at least 80% of the patients, levodopa was of greater benefit than any previously known substance. It almost completely reversed the symptoms of 25% of the patients. It can be used safely in the treatment of parkinsonism on an ambulatory basis. Nausea, anorexia, vomiting, orthostatic hypotension, choreiform movements and mental changes have occurred as side effects as the dosage reaches the therapeutic level above 4g/day. However, the symptoms have always cleared promptly when the dosage has been reduced or stopped. Subsequently, more leisurely increments have resulted in tolerance of higher beneficial dosage levels. Every sufferer from parkinsonism deserves a trial with levodopa. Amantadine hydrochloride has been shown to have a similar, but less extensive, and as yet not understood, beneficial effect on the symptoms of parkinsonism. Its commercial availability now makes it the drug of choice until L-dopa can be approved. 19 references. (author abstract modified)

59037
AUTHORS: Fokstuen, T.
ADDRESS: St. Sigfrids Sjukhus, Vaxjo, Sweden
TITLE: Nobrium, another benzodiazepine derivative. 29 months of experience.
SOURCE: International Pharmacopsychiatry (Basel).
SOURCEID: 3(2):130-135, 1970.

A clinical trial, conducted as a pilot study, carried out with a new benzodiazepine derivative, Nobrium, in 77 patients is presented. The patients, aged 16 to 73 years, suffered from a wide variety of

psychiatric disorders. The dosage of Nobrium varied between 20 and 70mg daily, and treatment was administered over periods lasting from 6 days to 29 months. The drug was found to be well tolerated, and undesirable effects (fatigue, dryness of mouth) disappeared spontaneously within a few days with the adjustment of the dosage. No evidence to suggest increased tolerance or dependence was observed, nor were there any signs of acute or chronic toxicity. 15 references. (author abstract modified)

59275
AUTHORS: Brummit, Houston; Schieren, Anne G.
ADDRESS: Psychiatric Clinic, Brooklyn-Cumberland Medical Center, Brooklyn, N. Y.
TITLE: "The perfect set up": a study of intensive service.
SOURCE: Psychology in the schools.
SOURCEID: 7(1):3-13, 1970.

A perfect setup for the treatment of social pathology in a Park Slope elementary school was established with the appointment of a Negro psychiatrist to the school who was also the director of a mental hygiene clinic and provided direct access to those facilities. Parental indifference, teacher frustration, severe retardation in basic skills, and behavior problems plagued the school on the institution of the program. Twice as many children were seen by the psychiatrist than at any other school. Although medical suspensions went up, many other students, who would have received disciplinary suspensions elsewhere, were retained in school through the use of tranquilizing Chlorpromazine capsules. With the medical problem in hand, school counselors were free to try to improve parent and teacher relationships and reeducate the teachers so that they could better deal with their students. They also provided individual and family counseling. Though by the end of the 3 year trial period no appreciable progress had been made in erasing skills retardation, the school scores were above district levels. Teacher morale had improved. If this type of program had the support of day care centers, zoning revisions, minority group staff, more guidance counselors, and parental aides, it could be even more effective. 2 references.

59380
AUTHORS: Dawson-Butterworth, Keith.
ADDRESS: Dept. of Child and Family Psychiatry, Childrens Hospital, 117 Manchester Road, Sheffield 10, Yorkshire, England
TITLE: The chemopsychotherapeutics of geriatric sedation.
SOURCE: Journal of the American Geriatrics Society.
SOURCEID: 18(2):97-114, 1970.

Some of the social, emotional, and organic factors involved in disturbing the balance of the geriatric psychological equilibrium are indicated and the need for an appropriate rationale of treatment with modern tranquilizers and sedatives is outlined. Both the problem of individual variation to treatment and the need for delineation of contributory organic factors are emphasized. Some features of senile psychoses, delirium, and depression are considered. Reference is made to the principles of sedation and tranquilization and a number of the more widely used agents are reviewed. Some of the more notable side effects are briefly outlined. Several clinical group studies involving the use of sedatives and tranquilizers were made on 143 patients from a general hospital geriatric unit and 41 geriatric patients from a psychiatric hospital. The presence of mental illness in geriatric patients was not associated with long term need for nocturnal sedatives but did tend to increase the duration of hospitalization and reduce the chances of rehabilitation. It was found possible to manage all types of patients in the geriatric range without barbiturates, which are contraindicated. The need for a more flexible approach to medication in the psychiatric geriatric population is indicated. Some of the currently available chemopsychotherapeutic agents, although useful, are of only limited value. 6 references. (journal abstract)

62407
AUTHORS: Porot, Maurice; Girard, Jacques.
ADDRESS: author address not given
TRTITLE: /Use of amitryptiline syrup in the treatment of enuresis in children./
TITLE: Utilisation de l'Amitryptiline sous sa forme sirop dans le traitement de l'enuresie de l'enfant.
SOURCE: Annales Medico-Psychologiques (Paris).
SOURCEID: 1(5):781-787, 1970.

The use of amitryptiline syrup in the treatment of enuresis (bed wetting) in children is discussed. Five clinical studies of children reviewed established the success of the therapy. Tolerance to the drug is noted as perfect for all ages. The syrup form used in the experimentation is concluded to be the simplest method to administer the drug to young children.

62817
AUTHORS: Gordon, Norman B.
ADDRESS: Rockefeller University, New York, N. Y. 10021
TITLE: Reaction-times of methadone treated ex heroin addicts.
SOURCE: Psychopharmacologia (Berlin).
SOURCEID: 16(4):337-344, 1970.

The reaction times (r.t.'s) of 18 male and 9 female outpatients under treatment with methadone for heroin addiction, were compared with those of control subjects who were either nondrug users or had recently been withdrawn from narcotic drugs. Three different r.t. tests were used: a simple visual, simple choice and a multiple discrimination, multiple choice r. t. The median r.t.'s of subjects tolerant to average doses of 100 mg of methadone per day were either equal to or shorter than those of control subjects. Analysis of the data revealed that the source of r.t. differences may be ascribable to superior signal detection or possibly decision time (pre-motor components) rather than limb transport time components of the total r.t. 13 references. (Author abstract)

62866
AUTHORS: Branzei, P.; Pirozynski, T.
ADDRESS: Clinica de psihiatrie de la Spitalul "Socola", Iasi, Rumania
TRTITLE: /Preliminary clinical observations concerning the treatment with metronidazol in chronic alcoholism./
TITLE: Observatii clinice preliminare asupra tratamentului cu metronidazol in etilismul cronic.
SOURCE: Neurologia, Psihiatria, Neurochirugia (Bucuresti).
SOURCEID: 15(4):301-306, 1970.

A comparative study was carried out on metronidazol treatment in 2 groups of patients. Group A (40 patients) received in the course of an ambulatory treatment a constant dose of 0,075g/day. The results, appraised by the subject's statement concerning his longing for alcoholic drinks, was considered as uncertain. The second group (37 patients) received a progressive treatment with metronidazol uup to a strong dosage of 2 to 5g/day associated with 33% alcohol, administered by parenteral route (1 to 10ml/day), and 33% glucose solution. The results were appraised by triggering a repulsive reaction to the patient's usual alcoholic intake towards the end of the treatment. A repulsive reaction was obtained in 80% of the cases. The results showed good tolerance for large metronidazol doses (2,5g/day), the objective clinical value of a triggered repulsive reaction potentiated by the parenteral administration of small alcohol doses, probably owing to specific immunobiologic mechanisms, and the prospects of being able to use metronidazol in the cases in which the treatment with tetraethylthiuram disulfide is contraindicated. 14 references. (Journal abstract modified)

62934
AUTHORS: Johnson, F. G.
ADDRESS: Alcoholism, Research Foundation, 477 Waterloo Street, London, Ontario, Canada
TITLE: A comparison of short-term treatment effects of intravenous sodium amytal-methedrine and LSD in the alcoholic.
SOURCE: Canadian Psychiatric Association Journal (Ottawa).
SOURCEID: 15(5):493-497, 1970.

Lysergic acid diethylamide (LSD), given with and without a therapist present, is compared with sodium amylobarbitone-methedrine (SAM), given with a therapist present, as abreactive agents in the treatment of alcoholism. Somatic, cognitive and affective experiences under the different treatment conditions are compared. LSD produced a different quality of response from SAM in many respects, but approximately half the patients in all categories noted a pronounced reduction of tension and depression following the experinece. This short-term effect is contrasted with long-term (1 year) absence of a significantly greater improvement rate with these drugs than with routine clinic treatment. The significance of these findings is discussed. 11 references. (Author abstract)

63143
AUTHORS: Cole, Jonathan O.
ADDRESS: Psychiatry Department, Tufts Medical School, Boston, Massachusetts
TRTITLE: /Drug treatment: critical evaluation./
TITLE: Antipsychotic and antianxiety drugs.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:471-473, 1970.

Critical comment is made on the review of the efficacy of drug treatment in psychiatry by Caffey, in which emphasis is placed on the clinical use of psychotropic drugs. It is stressed that there is an impressive unanimity of opinion among psychopharmocologists today. However, some schizophrenics respond only to higher doses of phenothiazines than the upper ranges given by Caffey. 5 references. (Journal abstract modified)

63144
AUTHORS: Dally, Peter.
ADDRESS: Westminster Hospital, London, England
TRTITLE: /Drug treatment: critical evaluation./
TITLE: Clinical vs. statistical sense.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:474-475, 1970.

Critical comment is made on the review of the efficacy of drug treatment in psychiatry by Caffey, in which emphasis is placed on the clinical use of psychotropic drugs. It appears that a depressingly purist attitude toward polypharmacy is evidenced. Symptoms, not causes are being treated; and frequently symptoms are varied and need combinations of drugs. It is noted that monoamine oxidase inhibitors are inferior to the tricycle antidepressants in the treatment of depressed mental hospital patients. Their activity and therapeutic value lie in the treatment of phobic anxiety states and atypical depressions. (Journal abstract modified)

63145
AUTHORS: Rickels, Karl.
ADDRESS: Psychiatry Department, University of Pennsylvania, Philadelphia, Pennsylvania
TRTITLE: /Drug treatment: critical evaluation./
TITLE: Neurotic, anxious, and depressed outpatients.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:476-481, 1970.

Critical comment is made on the review of the efficacy of drug treatment in psychiatry by Caffey, in which emphasis is placed on the clinical use of psychotropic drugs. Compared to depressed inpatients, depressed and neurotic outpatients frequently respond quite differently to drug treatment. Investigators should focus considerably more attention on drug research conducted with depressed outpatients. 7 references. (Journal abstract modified)

63146
AUTHORS: Simpson, George M.
ADDRESS: Early Clinical Drug Evaluation Unit, Research Facility, Rockland State Hospital, Orangeburg, New York
TRTITLE: /Drug treatment: critical evaluation./
TITLE: Clinical vs. desk pharmacology.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:481-487, 1970.

Critical comment is made on the review of the efficacy of drug treatment in psychiatry by Caffey, in which emphasis is placed on the clinical use of psychotropic drugs. It is felt that the bibliography is parochial, and the suggested doses are ultraconservative. The review suffers from a conservative desk pharmacology approach to treatment. 4 references. (Journal abstract modified)

63147
AUTHORS: Hollister, Leo E.
ADDRESS: Psychiatry Division, Veterans Administration Central Office, Washington, D. C.
TRTITLE: /Drug treatment in psychiatry./
TITLE: Reply to discussants.
SOURCE: International Journal of Psychiatry.
SOURCEID: 9:486-487, 1970.

Reply is made to critical appraisals of the research paper in which the efficacy of drug treatment in psychiatry is reviewed, emphasizing the clinical use of psychotropic drugs. Issue is taken with criticisms of the use of veterans population for the assessment, since this agency operates an advanced psychiatric hospital treatment program for patients with a wide variety of religious, economic, and social backgrounds. It is felt that the specific contentions that antianxiety and antidepressant drugs are more efficacious in practice than indicated are no doubt based on different interpretations of the data. 2 references.

63593
AUTHORS: Sanger, Maury D.
ADDRESS: Albert Einstein College of Medicine, New York, New York
TITLE: Psychosomatic allergy.
SOURCE: Psychosomatics.
SOURCEID: 11(5):473-476, 1970.

The occurrence of psychosomatic allergies is discussed and illustrated with case histories. Treatment by traditional therapy, the use of psychotropic drugs for therapy and also to alert the physician to etiological factors, and importance of recognition of psychological and physical stress situations the patient may be subject to, are considered. Tranquillizers have been shown to give satisfactory results in about 60% of the patients treated with them, combination of antidepressants with tranquillizers have been helpful in cases not helped by tranquilizers. Treatment of dermatologic conditions with doxepin under controlled conditions has produced improvement in 12 of 16 patients compared to 5 of 16 patients treated with amitriptyline. The importance is stressed of treatment of psychosomatic allergy by means of: thorough study of the allergic symptomatology; trial of adequate allergic management for treatment; good patient physician rapport; and working knowledge by the physician of the use of antidepressants and tranquilizers currently available. 6 references. (Author abstract modified)

59318
AUTHORS: no author.
ADDRESS: Author address not given
TITLE: Drugs: acid report on acid.
SOURCE: Nature.
SOURCEID: 226(5240):4-5, 1970.

A recent report prepared by the Advisory Committee on Drug Dependence (The Amphetamines and Lysergic Acid Diethylamide, HMSO, 6s, 1970) reveals that LSD can awaken the urge to kill oneself or others. It may cause deep depression or violent swings of mood, particularly in people who are unstable, and, contrary to popular belief, taking LSD may be dangerous even for those who are emotionally mature. Claims that LSD can help people solve their personal and intellectual problems are generally not confirmed by psychological measurements. There is also no conclusive evidence that LSD is better than any other kind of treatment in helping patients such as chronic alcoholics or those with psychosexual difficulties. However, suggestions that the drug may cause chromosomal damage to the sex cells have not been confirmed; and there is no reason to suppose that LSD therapy is exceptionally dangerous, at least in responsible hands. Irresponsible overprescribing by doctors of both LSD and methylamphetamine were of concern to the committee. Such practice, it is felt, can help to spread new fashions in drug taking, and the speed with which these trends arise is particularly alarming. The committee recommends that possibilities of controlling the known precursors of LSD should be explored.

62808
AUTHORS: Fisher, Gary.
ADDRESS: Division of Behavioral Sciences and Health Education, School of Public Health, University of California, Los Angeles, California
TITLE: Psychotherapy for the dying: principles and illustrative cases with special reference to the use of LSD.
SOURCE: Omega.
SOURCEID: 1(1):3-15, 1970.

In the belief that it is time to introduce humanism into the American way of death, psychotherapy for the dying is proposed and principles and illustrative cases are presented. Special reference is made to the use of D-lysergic acid diethylamide (LSD). The opinion is expressed that the living ignore death and the patient is most often left to himself to die. The isolation imposed on him by the attitude now prevailing is believed to make it virtually impossible for him to deal with conflicts that emerge when he becomes aware that he is dying. The issues raised on awareness of death are personal--the total conception of death reflected in the patient's attitudes and beliefs, and interpersonal--the nature of the patient's relationships with his significant others. If the patient is permitted to do so, it is believed that the identity crisis central to the personal issue, may be avoided by psychological preparation for death; and that many of the unpleasant experiences arising from interpersonal conflicts the patient has not been allowed to work out may also be avoided. The loneliness suffered from isolation might be relieved by permitting the patient to share his experiences with loved ones. A transcedental state of consciousness may be reached prior to physical demise. It is believed that aiding the patient in achieving transcendence is a way of introducing humanism into death. Some experiences with the use of LSD for the terminally ill are reviewed and a case history is presented of a 65-year-old-female receiving psychotherapy and LSD in the terminal stages of cancer. 8 references.

59623
AUTHORS: Decherd, Jonathan F.
ADDRESS: Renal Clinic, Department of Medicine, William Beaumont General Hospital, El Paso, Texas 79920
TITLE: The problem of pot: the medical effects of marihuana.
SOURCE: Southwestern Medicine.
SOURCEID: 51(8):170-172, 1970.

The medical effects of marihuana are reviewed. Studies in which the subjects were soldiers, prisoners, volunteers and chronic marihuana users and animals are cited. Obstacles, including legislation, to the study of marihuana are enumerated. Most of the studies are based on the administration of tetrahydrocannabinol and not on the smoking of marihuana, the form of use prevalent among Americans. Behavioral and physiological effects of marihuana are discussed. 20 references.

60143
AUTHORS: Martin, W. R.; Jasinski, D. R.
ADDRESS: National Institute of Mental Health, Addiction Research Center, Lexington, Kentucky 40501
TITLE: Physiological parameters of morphine dependence in man-tolerance, early abstinence, protracted abstinence.
SOURCE: Journal of Psychiatric Research (London).
SOURCEID: 7(1):9-17, 1969.

The effects of chronic morphine intoxication and withdrawal on a variety of physiological variables were studied in seven subjects. During chronic intoxication, pupils were constricted and respiration was depressed, whereas, blood pressure, pulse rate and body temperature were elevated. The abstinence syndrome that emerged following withdrawal had two phases. The early or primary phase was characterized by an increase in blood pressure, pulse rate, body temperature, respiratory rate and pupillary diameter, and these signs lasted for 4-10 weeks. The protracted or secondary phase first began to emerge between the sixth and ninth weeks after complete withdrawal and persisted through the twenty-sixth week to thirtieth week. It was characterized by decreased blood pressure, pulse rate, body temperature and pupillary diameter. A relationship between the protracted abstinence syndrome and relapse has been postulated. 20 references. (Author abstract)

60144
AUTHORS: Eisenman, A. J.; Sloan, J. W.; Martin, W. R.; Jasinski, D. R.; Brooks, J. W.
ADDRESS: National Institute of Mental Health, Addiction Research Center, Lexington, Kentucky 40501
TITLE: Catecholamine and 17-hydroxycorticosteroid excretion during a cycle of morphine dependence in man.
SOURCE: Journal of Psychiatric Research (London).
SOURCEID: 7(1):19-28, 1969.

Seven male prisoners of the NIMH Clinical Research Center were subjects of studies conducted to assess changes in catecholamine and 17-hydroxycorticosteroid excretion during a cycle of morphine dependence and to relate these changes to physiological and behavioral changes. 19 references.

60272
AUTHORS: Borud, O.; Gjessing, L. R.
ADDRESS: Central Laboratory, Dikemark Hospital, Asker, Norway
TITLE: Excretion of vanylglycol in human urine under dietary control, and during treatment with antibiotics, disulfiram, a monoamineoxidase inhibitor, alphamethyldopa, and reserpine.
SOURCE: Scandinavian Journal of Clinical and Laboratory

Investigation (Oslo).
SOURCEID: 25(3):251-255, 1970.

Little is known about the excretion of vanylglycol during diet control and during treatment with antibiotics, an anti-alcoholic drug (disulfiram), a monoamine oxidase inhibitor (alpha-methyldopa) or reserpine. The normal excretion of vanylglycol under these treatment conditions is described. Six healthy men were given diets free of fruits and vegetables, and 1 man given a pure sucrose and water diet and antibiotics for 4 days. Vanylglycol in urine was detected by paper chromatography and thin layer chromatography after enzymatic hydrolysis with glusulase (glucuronidase + arylsulfatase). Acid hydrolysis destroyed vanylglycol. Treatment with antibiotics and a sucrose diet did not change the vanylglycol excretion while alpha-methyldopa and reserpine decreased the excretion. Disulfiram treatment increases the vanylglycol excretion. 18 references. (Author abstract modified)

60438
AUTHORS: Brewer, Colin.
ADDRESS: c/o 32 Bowen Street, Richmond 3121, Victoria, Australia
TITLE: Psychosis due to acute hypothyroidism during the administration of carbimazole.
SOURCE: British Journal of Psychiatry (London).
SOURCEID: 115(527):1181-1183, 1969.

An acute confusional psychosis occurring during the treatment of mild hyperthyroidism with carbimazole is described. Previous reports of this association are very rare. 10 references. (Author abstract)

60470
AUTHORS: Brebbia, D. R.; Altshuler, Kenneth Z.; Kline, Nathan S.
ADDRESS: Research Center, Rockland State Hospital, Orangeburg, New York 10962
TITLE: Lithium and the electroencephalogram during sleep.
SOURCE: Diseases of the Nervous System.
SOURCEID: 30(8):541-546, 1969.

To assess the possible effects of lithium carbonate on the sleep cycle, continuous measurements of nocturnal electroencephalograms were made on 3 normal, healthy subjects and 3 manic-depressive patients during several recording sessions. Controls were studied first during a period of placebo and then lithium administration; the manic- depressives were measured during a remitted manic phase, both preceding and during which they were maintained on therapeutic levels of lithium. Under the conditions of the present experiment, no systematic drug effects were revealed in the sleep patterns of the control group. Likewise, no readily observable effects on the sleep cycle of the patient group were discerned which could be attributed solely to the lithium. Possible interrelationships between the sleep cycle and psychotic states are discussed in the light of recent evidence and areas demanding future study are indicated. 40 references. (Author abstract)

60649
AUTHORS: Rodin, Ernst A.; Calhoun, Hazel D.
ADDRESS: Michigan Epilepsy Center and Association, 10 Peterboro Street, Detroit, Michigan 48201
TITLE: Metrazol tolerance in a "normal" volunteer population: a ten year follow-up report.
SOURCE: Journal of Nervous and Mental Disease.
SOURCEID: 150(6):438-443, 1970.

A followup questionnaire in regard to interval life experiences was returned by 26 of 39 subjects who had participated in a study on metrazol tolerance 10 years earlier. It was found that the subjects who had shown spike wave activity in the electroencephalogram

(generalized seizures) had done well in all respects during the interval. Their children have, so far, not had febrile or afebrile convulsive seizures. The subjects who had experienced a marked subjective response to the drug had not done as well. They had suffered more physical illnesses in the interval and expressed general dissatisfaction with their life achievements. The case of 1 subject who had died of suicide is presented briefly to highlight the interactions between physiological and psychological mechanisms. 10 references. (Author abstract)

60880
AUTHORS: Cleghorn, J. M.; Peterfy, G.; Pinter, E. J.; Pattee, C. J.
ADDRESS: Department of Psychiatry, McMaster University, Hamilton, Ontario, Canada
TITLE: Verbal anxiety and the beta adrenergic receptors: a facilitating mechanism.
SOURCE: Journal of Nervous and Mental Disease.
SOURCEID: 151(4):266-272, 1970.

Since there is evidence that propranolol reduces the intensity of physiological symptoms of anxiety states and psychological anxiety as well, it has been hypothesized that the beta adrenergic receptors may participate in a positive feedback system which facilitates anxiety. Six healthy female subjects were each subjected to mildly stressful hypnotic suggestions on 6 occasions. During 3 of the trials on each subject the beta adrenergic blocking agent propranolol was administered. Anxiety levels in recorded speech were measured during each experiment, and changes in plasma free fatty acids were estimated as an indication of beta receptor activation. The results indicate that beta adrenergic blockade with propranolol has no inhibiting effect on psychological anxiety in healthy subjects when an operational measure of anxiety is used, and where bodily symptoms are absent. There is little evidence that the beta receptors participate in a subliminal feedback system which facilitates anxiety, but probably the bodily sensations of anxiety states do tend to intensify psychological anxiety. 30 references. (Author abstract)

61654
AUTHORS: Fine, E. W.; Lewis, D.; Villa-Landa, I; Blakemore, C. B.
ADDRESS: West Philadelphia Community Mental Health Consortium, P. O. Box 8076, Philadelphia, Pennsylvania 19101
TITLE: The effect of cyclandelate on mental function in patients with arteriosclerotic brain disease.
SOURCE: British Journal of Psychiatry (London).
SOURCEID: 117(537):157-161, 1970.

A double-blind crossover trial is described in which the effectof cyclandelate is assessed on 40 patients admitted to a psychiatric hospital who were severely handicapped with symptoms due to arteriosclerotic brain disease. Significant improvement was observed in a number of important mental functions, suggesting that enhancing the cerebral circulation produces a favorable clinical response in this category of patient. 9 references. (Author abstract)

62061
AUTHORS: Greenberg, Ramon; Mahler, Donald; Pearlman, Chester.
ADDRESS: Boston Veterans Administration Hospital, 150 S. Huntington Ave, Boston, Mass. 02130
TITLE: Dreaming and nitrous oxide.
SOURCE: Archives of General Psychiatry.
SOURCEID: 21(6):691-703, 1969.

To determine whether artificial dream experience could be produced, a study was designed to measure the effect on one night's sleep of 30 minutes of nitrous oxide inhalation administered during the previous afternoon. Seven students had nitrous oxide experiences

each, 1 following a night of undisturbed sleep in the laboratory and 1 after a night of dream deprivation in which the subject was awakened at the first signs of each stage of Rapid Eye Movement (REM) period. The electroencephalogram (EEG) findings of low voltage activity suggest that this was partly achieved although very few REMs and little muscle relaxation occurred. Thus nitrous oxide appears to produce an experience which does not precisely resemble the physiological aspects of stage REM sleep but which can abolish the rebound following dream deprivation and the experience shows psychological characteristics similar to dream experience. 14 references.

62326
AUTHORS: Schou, Mogens.
ADDRESS: Risskov, Denmark
TRTITLE: /Imipramine and lithium effects on biogenic amine transport in depressed and manic-depressed patients./ Discussion.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):344-345, 1970.

The value of both in vivo and in vitro studies, and of investigating the effects of lithium on serotonin transport in human platelets, in a study of the effects of imipramine and lithium on biogenic amine transport is commented upon. The subjects in the report under discussion were depressed and manic-depressed patients. Two explanations are advanced for the lack of stimulating effect of lithium added in vitro, while it had a stimulating effect on serotonin transport when administered in vivo. While the mechanism of action of imipramine and lithium in relation to amine metabolism is still unknown, the conclusion that available data indirectly support the assumed relation between affective disorders and monoamines is agreed upon. 4 references.

62330
AUTHORS: Evans, W. O.
ADDRESS: Physiology Division, U. S. Army Medical Research and Nutrition Laboratory, Fitzsimons General Hospital, Denver, Colorado 80240
TITLE: The effect of stimulant drugs on opiate induced analgesia.
SOURCEID: Springfield, Va., NTIS, AD-671449. HC: $3.00. MF: $.65.

The potentiating effects of stimulant drugs on opiate induced analgesia are reviewed and areas of interest that have developed are examined. The types of hypothetical receptor structures, which would predict that a combination of an autonomically stimulating drug in combination with an opiate might lead to an increase in analgesic potency and yet a decrease in the side-effects of opiates, are questioned. A possible explanation is presented. A clinical study in which young male patients with postoperative (hernia) pain were administered morphine sulfate, desoxyephedrine, a combination of the 2, or placebo, is described. Reduction in pain was found to be 40% for patients receiving placebo, 67% for morphine, 72%for desoxyephedrine, and 96% for those receiving the mixture of the 2 drugs. The results of a high altitude study in which desoxyephedrine and codeine were studied are reviewed. Two conclusions are reached: it would seem that the possibility does exist that the quality of analgesics in terms of potency and also in reducing the side effects may be improved by mixing opiates with stimulant drugs; and the mixture of various types of stimulant drugs with the opiates seems to offer an almost ideal research tool with which the action of opiates may be better spelled out. 33 references. (Author abstract modified)

62331
AUTHORS: Miller, Earl F., II; Graybiel, Ashton.
ADDRESS: Naval Aerospace Medical Institute, Pensacola, Florida 32512

TITLE: Effect of drugs on ocular counterrolling.
SOURCEID: Springfield, Va., NTIS, AD-675956. HC:$3.00 MF:$.65.

To determine the temporal effect of each of several selected drugs and a placebo upon ocular counterrolling, a specific indicator of otolith activity, measurements under controlled conditions were made before and at various times after the oral administration of the drug or placebo. A pool of 9 normal subjects participated, and from 4 to 6 were used in each experimental trial. Alcohol (80 proof vodka), 1cc/lb body weight, had a marked and progressive depressant effect on the amount of eye roll during the intoxication period; complete recovery was recorded six hours after its ingestion. Scopolamine, meclizine, acetylsalicylic acid, meprobamate, chlordiazepoxide hydrochloride, d-amphetamine, and diphenidol, given in twice the usually recommended doses, had little or no effect. 18 references. (Author abstract)

62366
AUTHORS: Murphy, Dennis L.; Colburn, Robert W.; Davis, John M.; Bunney, William E., Jr.
ADDRESS: National Institutes of Health Clinical Center 10-3S229, Bethesda, Maryland 20014
TITLE: Imipramine and lithium effects on biogenic amine transport in depressed and manic-depressed patients.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):339-344, 1970.

In order to examine directly in man cellular mechanisms important in the mode of antidepressant action of imipramine and also the antimanic action of lithium carbonate, a study was conducted of biogenic amine transport in blood platelets obtained from patients prior to and during treatment with these drugs. Platelets obtained from patients before and during treatment with imipramine and lithium were used to determine whether the effects of these drugs suggested by animal studies to be involved in cell membrane transport could be identified in these human cells. Imipramine was found to inhibit and lithium to stimulate amine transport in platelets, confirming that the cellular effects of these drugs in man are similar to their effects on brain cells from animals. 34 references. (Author abstract modified)

62510
AUTHORS: Kopell, B. S.; Wittner, W. K.; Lunde, D.; Warrick, G.; Edwards, D.
ADDRESS: Department of Psychiatry, Stanford University Medical Center, Stanford, California 94305
TITLE: Influence of triiodothyronine on selective attention in man as measured by the visual averaged evoked potential.
SOURCE: Psychosomatic Medicine.
SOURCEID: 32(5):495-502, 1970.

Man selectively attends to his environment by processing some of the stimuli with which he is continually bombarded, filtering out those which he judges to contain information important to him. It is possible to obtain an objective measure of attention directed toward a specific stimulus by measuring the averaged evoked potential (AEP) produced by that stimulus. The amplitude of the AEP is greater when the subject attends to a stimulus than when he ignores it while attending to the competing stimulus. The difference between these amplitudes is a measure of selective attention. Using this measure, the effects of the thyroid hormone triiodothyronine (T3) were compared with the effects of a placebo on normal subjects. T3 increased the amplitude of the AEP when the subject ignored the stimulus but had no effect on the amplitude when the subject attended to the stimulus. T3, therefore, reduced selective attention. This reduction of selective attention may explain some of the psychopathology observed in hyperthyroidism. 21 references. (Author abstract modified)

62783
AUTHORS: Stabenau, James R.; Creveling, Cyrus R.; Daly, John.
ADDRESS: Department of Psychiatry, University of Connecticut School of Medicine, Hartford, Connecticut 06112
TITLE: The "pink spot", 3,4-dimethoxyphenylethylamine, common tea, and schizophrenia.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(5):611-616, 1970.

The relationship of the "pink spot", or 3,4-dimethoxyphenylethylamine, (3,4-DMPEA), in the urine of schizophrenics to the illness has received investigation. The research results have not been uniform and the significance of the urinary amine remains in doubt. A controlled dietary study of the effects of drinking common tea on the appearance of 3,5-DMPEA in the urine is reported. Pertinent investigations of the characterization of the "pink spot" as 3,4-DMPEA in the urine of schizophrenics and nonschizophrenics are reviewed. Several studies suggested a plant food dietary source for urinary 3,4-DMPEA. Results of the present study of 3 nonschizophrenics found this urinary amine (positively identified by mass spectrometry) to be present during free diet plus tea ingestion and not present during controlled diet except when tea was ingested. It is concluded that urinary 3,4-DMPEA has an exogenous plant source and that its presence is not primarily related to schizophrenia. 25 references. (Journal abstract modified)

63200
AUTHORS: Masciocchi, A.; Reitano, S.; Mase, G.
ADDRESS: Ospedale Psichiatrico Provinciale di Como, Como, Italy
TRTITLE: /Electroencephalographic variations induced by psychotropic drugs: clinical-electrophysiological correlations for a "guided therapy"./
TITLE: Modificazioni elettroencefalografiche indotte da psicofarmaci correlazioni clinico-elettrofisiologiche per una "terapia pilotata."
SOURCE: Rivista di Neurobiologia (Arezzo).
SOURCEID: 16(1):3-61, 1970.

The literature concerning variations induced in electroencephalograms by psychotropic drugs is reviewed. With this background, some clinical electroencephalographic experiments with known medication are described. The psychotropic drugs, the action of which are reviewed, include a group of neuroleptic agents -- reserpine, phenothiazines, and butyrophenones; tranquillizing agents -- meprobamate and the benzodiazepines; and antidepressive agents -- imipramine and the monoamine oxidase inhibitors. The drugs used in the clinical experiments include: antidepressive agents -- Nardil, Tofranil and Laroxyl; and neuroleptic agents -- Largactil, Melleril, Neuleptil, and Serenase. The patients (age range 20 to 69 years) treated with the drugs are described and some of the electroencephalograms are reproduced. Correlations between the variations in the "cerebral biorhythms" and the evolution of the diseases are noted, and the importance of electroencephalographic observations in choice and dosage of drugs, and to a prognosis pertinent to a rapid and effective recovery for the patient is stressed. 119 references. (Journal abstract modified)

63201
AUTHORS: Bruno, A.; Bruno, S. Cumer.
ADDRESS: Istituto Psichiatrico Provinciale, "P. Pini" di Milano, Milan, Italy
TRTITLE: /Effects of amitriptyline on the metabolism of catecholamines and of serotonin in depressed patients./
TITLE: Effetti dell'amitriptilina sul metabolismo delle catecolamine e della serotonina in pazienti depressi.
SOURCE: Rivista di Neurobiologia (Arezzo).
SOURCEID: 15(4):749-761, 1969.

To determine the effects of amitriptyline therapy on the

metabolism of the catecholamines and serotonin in patients with neurotic or psychotic depression, a study was made pertaining to urinary excretion of the major metabolites of noradrenaline (NA), dopamine and serotonin, i.e., of vanilmandelic acid (VMA), homovanillic acid (HVA), and 5-hydroxyindoleacetic acid (5-HIAA). It was found that amitriptyline leads to a decreased VMA and to an increased HVA and 5-HIAA excretion. Such changes, however, were very slight and without statistical significance. Evident relationships were not found between these metabolic changes and pharmacological effects. The results of the study are discussed from the biochemical and clinical points of view. It is concluded that any hypothesis concerning the exclusive role of NA in amitriptyline action cannot be accepted unconditionally on the basis of present information. 45 references. (Journal abstract modified)

63515

AUTHORS: Luparello, Thomas J.; Leist, Nancy; Lourie, Cary H.; Sweet, Pauline.
ADDRESS: State University of New York, Downstate Medical Center, 450 Clarkson Ave., Brooklyn, New York 11203
TITLE: The interaction of psychologic stimuli and pharmacologic agents on airway reactivity in asthmatic subjects.
SOURCE: Psychosomatic Medicine.
SOURCEID: 32(5):509-513, 1970.

A study was conducted in an effort to delineate the influence of expectation on the airway response of asthmatics to the inhalation of bronchoactive pharmacologic agents. In an effort to deal with some of the problems encountered in prior studies, all inhalations were given to subjects under double blind conditions and at a time when baseline airway conductance levels were at or near normal. Two bronchoactive substances, isoproterenol and carbachol were presented by inhalation to 20 asthmatic subjects. Each drug was given under 2 conditions: in one case, the subject was told it was a bronchodilator; in the other, he was told it was a bronchoconstrictor. The bronchodilator effect of isoproterenol was greater when the subject was told it was a bronchodilator than when told it was a bronchoconstrictor. Similarly, the bronchoconstricting effect of carbachol was greater when the subject was told it was a bronchoconstrictor than when told it was a bronchodilator. 6 references. (Author abstract modified)

59290
AUTHORS: Zinberg, Norman E.; Weil, Andrew T.
ADDRESS: Medical School, Harvard University, Cambridge, Mass.
TITLE: A comparison of marijuana users and non-users.
SOURCE: Nature.
SOURCEID: 226(5241):119-123, 1970.

Sixty two male Ss tested to determine social and psychological similarites and differences among 3 groups: marijuana naive persons (N), persons not naive to marijuana (NN) and chronic marijuana users (C). All subjects were over 21 and smoked tobacco cigarettes or marijuana regularly, and all were interviewed in the same way. They were asked mainly about social subjects with occasional questions about drug use, with detailed drug questions near the end of the interview. The findings indicate that those who smoked marijuana moderately differed little in personality from those who did not indulge, but that heavy smokers of marijuana were rather less conventional, and tended to drink little alcohol. 6 references.

59624
AUTHORS: Conroy, Robert F.
ADDRESS: Department of Medicine, William Beaumont General Hospital, El Paso, Texas 79920
TITLE: The problem of pot: marihuana, a psychiatric point of view.
SOURCE: Southwestern Medicine.
SOURCEID: 51(8):172-177, 1970.

From a psychiatric point of view, the use of marihuana may be summarized as follows: (1) Marihuana has a long history. Initially its use was associated with crime and violence but later this idea for the most part was disproven. (2)The use of marihuana is characterized by a feeling of euphoria, well-being, increased sensation, sociability and relaxation, but adverse reactions can be a definite part of the experience. (3) There are differences between marihuana naive and marihuana experienced subjects in regards to both psychological effects and performance scores on certain selected tests. (4) The question of marihuana psychosis is controversial. A toxic psychosis of short duration occurs in certain individuals but perhaps borderline personalities can be precipitated into frank psychosis by the use of cannabis. In addition, a recurrent marihuana effect has been described; the "green rebellion" is described as an attempt by youths using drugs to "cop out" of the stresses of life; the reason for beginning, continuing, and stopping marihuana was presented; and some ideas on the "boiled down facts of marihuana" were presented, namely that (a) the use of marihuana can lead to apathy, (b) that a hedonistic dependence can develop, and that (c) alcohol does share in some of the toxic effects and qualities. 40 references. (Author abstract modified)

60280
AUTHORS: Aaronson, Bernard S.
ADDRESS: Bureau of Research in Neurology and Psychiatry, Princeton, New Jersey
TITLE: Drugs: personality::personality: drugs.
SOURCE: Psychological Reports.
SOURCEID: 26(3):811-818, 1970.

The concepts, drug and personality, are conceptually similar, fulfill similar functions, and are defined by similar operations in their respective domains. Usual studies of drug personality interaction imply mind body dualism. A monistic concept is set forth and some implications of extending methods from personality psychology to pharmacology and from pharmacology to personality psychology are set forth. 38 references. (Author abstract)

61562
AUTHORS: Adamson, John D.
ADDRESS: Department of Psychiatry, Faculty of Medicine, University of Manitoba, Winnipeg 3, Manitoba, Canada
TITLE: 'Mandrax' as an hypnotic for psychiatric in-patients: a comparative trial with chloral hydrate.
SOURCE: British Journal of Psychiatry (London).
SOURCEID: 117(537):209-210, 1970.

Mandrax, a combination of methaqualone and diphenhydramine, was compared with chloral hydrate for hypnotic efficacy in a double-blind crossover study on psychiatric inpatients. Psychiatric evaluation of patients was made daily, records of sleep onset and duration were made and the data analyzed. Side effects were noted; the results of the study agree with other reports that Mandrax is an effective hypnotic, perhaps indicated particularly for use with older patients because of decreasing minor side-effects with this group. 6 references.TIS1971-05488%Collins, G. H. %%%Intravenous chlorimipramine in the treatment of severe depression. %British Journal of Psychiatry (London). %117(537):211-212, 1970. %Stockport and Buxton Hospital Group, 34 Broadway, Bramhall, Cheshire, England%TIS%1970%aab-mod%English%%%Depression, Psychopharmacology-10%%%00NCMHI, XJournal Article, XResearch Study A preliminary report on a clinical trial designed to evaluate the effect of intravenous infusions of chlorimipramine as a possible alternative to electroconvulsive therapy (ECT) in the treatment of severe depression is made. Of 16 female inpatients treated, 4 patients with endogenous depression showed very good and rapid responses. Twelve cases of mixed, reactive or neurotic depression were also treated, and of those, 9 showed good but slower responses. The results indicate that 81% of the patients treated have shown very good or good responses to treatment. This compares favorably with the responses of similar groups of severely depressed patients to ECT, and indicates that intravenous infusions of chlorimipramine can be offered as an alternative form of treatment. Otherfindings are discussed. 6 references. (Author abstract modified) TIS1971-05489 %Goddard, P.; Lokare, V. G. %%%Diazepam in the management of epilepsy. %British Journal of Psychiatry (London). %117(537):213-214, 1970. %St. James' Hospital, Portsmouth, England%TIS%1970%pro-gen%English%%%Behavioral Sciences, Neurosciences, Psychopharmacology-11%%%00NCMHI, XJournal Article, XResearch Study The long-term effects of diazepam therapy on 16 epileptic patients, with particular emphasis on personality changes, alteration of behavior and incidence of fits, have been assessed. All of the patients had been hospitalized for at least a year, and previous anticonvulsant medication was continued throughout the trial. The results indicate that diazepam is a useful adjunct in the control of fits and has a favorable effect in controlling aggression and possibly improving some undesirable aspects of personality function. Some patients in this long stay group became well enough to be discharged from hospital. 7 references.

62175
AUTHORS: Goldberg, Janice B.; Kurland, Albert A.
ADDRESS: University of Maryland, Baltimore County, 5401 Wilkens Ave., Baltimore, Md. 21228
TITLE: Dilantin treatment of hospitalized cultural-familial retardates.
SOURCE: Journal of Nervous and Mental Disease.
SOURCEID: 150(2):133-137, 1970.

Forty seven hospitalized male cultural familial retardates, ages 9 through 14, were treated with Dilantin in a double blind study. All subjects were placed on placebo for 2 weeks. For the next 8 weeks the drug group was given 100mg. of Dilantin twice a day to determine the effects of Dilantin on their social, emotional, and cognitive behaviors. The control group continued to receive placebo throughout the study. Direct psychological assessment of the subjects and evaluation by professional personnel were obtained prior to and after 8 weeks of drug treatment. Thorough physical

examination and laboratory determination were made throughout the study. Dilantin treated subjects showed strong improvement in ability to maintain attention, in self control and delay of gratification, and in improved interpersonal relationships with adults. Drug subjects showed strong improvement in logical thinking. Drug subjects showed trends toward decreased temper outbursts, lowered impulsivity, and lowered aggression. Concomitantly, drug subjects showed trends to increased ability to concentrate and to better visual motor organization. No toxicity was noted. No side effects were found. Drug subjects who had been on prior tranquilizing medication showed no regression into disturbed behavior, suggesting that Dilantin provided therapeutic support equivalent to prior medication. 9 references. (Author abstract)

62800

AUTHORS: Vojtechovsky, M.; Soukupova, B.; Safratova, V.; Votava, Z.
ADDRESS: Institute of Pharmacology, Laboratory of Clinical Psychopharmacology, Charles University, Prague, Czechoslovakia
TITLE: The influence of centrophenoxine (Lucidril) on learning and memory in alcoholics.
SOURCE: International Journal of Psychobiology.
SOURCEID: 1(1):49-56, 1970.

The influence of centrophenoxine (Lucidril), a drug with central cholinergic action, on learning and memory in alcoholics was investigated. The psychotropic activity of a single oral dose of 250mg of centrophenoxine was studied in 10 chronic abstaining alcoholics by 5 psychological tests. In comparison with the changes induced by a placebo in a control group of patients, it was found that the only test sensitive to centrophenoxine treatment was the numerical square (Pauli) test. Centrophenoxine significantly improved concentration while sustained mental effort, speed of arithmetic processes, retention time of word associations and recent memory remained unaffected. In another group of 6 chronic alcoholics with marked memory disturbances (chronic Korsakoff psychoses) centrophenoxine was given for 12 consecutive days in a dose of 250mg t.d.s. A placebo was administered during another period of 12 days to each patient (in 3 patients before, in the remaining 3 patients after centrophenoxine therapy). A battery of psychological tests of memory and learning was used. It was found that centrophenoxine significantly improved the learning process and short-term memory estimated by paired-associates and by the Benton test. The memory quotient (MQ), measured by the Wechsler memory test, also had increased significantly after this short period of centrophenoxine therapy. The question whether stimulation of adrenergic or cholinergic neurons was involved in this favorable effect of centrophenoxine has remained unsolved by this study. Further data are presented in support of our hypothesis concerning the cholinergic mechanisms that participate in recent memory disturbances in alcoholics: physostigmine significantly improved the learning ability and short-term memory (paired-associates method) in 18 other alcoholics with mild memory defects (MQ less than 90), in comparison with the effects of 10 mg dexphenmetrazine and a placebo. 12 references. (Author abstract modified)

59035
AUTHORS: Talbott, John A.
ADDRESS: 160 West 94th Street, New York, New York
TITLE: Phenothiazine toxicity in pool shark.
SOURCE: New York State Journal of Medicine.
SOURCEID: 70(12):1671-1672, 1970.

The case history of a patient complaining of depression, agitation and loss of previous ability at pool is related. The patient, 60 years of age, had been taking chlorpromazine for several years for his anxiety. On admission, he appeared emaciated and depressed. Since the patient's present symptoms were believed related to a recent change in prescription, substituting trifluoperazine for chlorpromazine, a reversion in medication to theoriginal drug was made. The results showed complete remission of the depression and a return to normal activity. 2 references.

59055
AUTHORS: Viukari, M. M. A.
ADDRESS: Rinnekoti Institute, Majalampi, Finland
TITLE: Phenytoin, folates, and A.T.P.ase.
SOURCE: Lancet (London).
SOURCEID: No. 7654:1000-1001, 1970.

Following recent studies, it has been hypothesized that folic acid deficiency induced by anticonvulsant drugs may cause dementia and schizophrenia-like psychoses and that epilepsy and schizophrenia are biologically antagonistic disorders. The improvement in mental state and the increase in fit frequency produced by folic acid might perhaps be mediated simply through a decrease in tissue levels of anticonvulsant drugs resulting from increasing para - hydroxylation. Studies have shown that seizures cause an exchange of sodium ion (Na^+) for potassium ion (K^+) in brain cells, while the Na^+/K^+ -activated ATPase has the reverse reaction, phenytoin inhibited Na^+/K^+ -activated ATPase. Cardiac glycosides increase the intracellular Na^+ and decrease the intracellular K^+ concentration without producing fits as a typical side reaction, presumably because they inhibit the Na^+/K^+ -activated ATPase. The toxic effects of phenytoin, bromide, digitalis and lithium may be due to their interference with the action of ATPase and ion fluxes. 8 references.

59057
AUTHORS: Sacks, O. W.; Kohl, M.; Schwartz, W.; Messeloff, C.
ADDRESS: Beth Abraham Hospital, Bronx, N. Y.
TITLE: Side-effects of L-dopa in postencephalitic parkinsonism.
SOURCE: Lancet (London).
SOURCEID: No. 7654:1006, 1970.

A 12 month trial of L-dopa in a group of severely disabled postencephalitic parkinsonian patients showed a much higher incidence of physiological and psychological disturbances than previously reported. Florid respiratory crises (attacks of panting, gasping, sniffing, puffing, breath holding, etc.) occurred in 12 of the 25 patients studied, and an additional 8 patients developed respiratory and phonatory tics (sudden deep breaths, yawns, coughs, giggles, sighing, grunting, moaning, etc.). These 20 patients also showed such abnormalities as tachypnea, bradypnea, asymmetrical movement of the 2 sides of the chest, paradoxial diaphragmatic movements, and reversal of inspiratory and expiratory phases. The induction of respiratory crises by L-dopa may be prompt or greatly delayed; they may occur at infrequent irregular intervals (2 or 3 times a month) or as frequently as 5 times a day (there is no clear relation to time of L-dopa administration). Respiratory crises are readily brought on by general psychophysiological arousals such as rage and exertion. Respiratory crises can become an idiosyncratic form of respiratory behavior. Patients with idiopathic Parkinson's disease to whom L-dopa was given showed no specific respiratory abnormalities. 2 references.

60861
AUTHORS: Prien, Robert F.; DeLong, Samual L.; Cole, Jonathan O.; Levine, Jerome.
ADDRESS: Biometric Laboratory, George Washington University, Washington, D. C. 20037
TITLE: Ocular changes occurring with prolonged high dose chlorpromazine therapy. Results from a collaborative study.
SOURCE: Archives of General Psychiatry.
SOURCEID: 23(5):464-468, 1970.

A collaborative study has been made of the ocular changes which occur with prolonged high dose chlorpromazine therapy. Over 200 patients from 7 participating public mental hospitals were treated for 6 months with high doses of chlorpromazine. Control groups were treated with low doses of chlorpromazine, placebo, and physician's choice of medication. Ophthalmologic examinations revealed that high doses of chlorpromazine administered over a 6 month period can produce opacities in the lens, posterior cornea, and anterior cornea. These ocular changes are significantly related to photosensitivity, suggesting that patients developing photosensitivity should receive a slitlamp examination of the lens and cornea. Followup examinations conducted 6 to 9 months after the study suggest that anterior corneal lesions are reversible. The followup examinations revealed relatively little improvement in lenticular and posterior corneal change. 17 references. (Author abstract modified)

61704
AUTHORS: Carter, Charles H.
ADDRESS: Sunland Hospital, Orlando, Florida
TITLE: Mental retardation associated with prenatal intoxication, allergic reactions, deficiencies, trauma, and physical agents.
SOURCE: In: Carter, C., Handbook of mental retardation syndromes.
SOURCEID: 2nd ed. Springfield, Illinois, Charles C Thomas, 1970. 285 p. (p. 26-36).

Mental retardation associated with prenatal intoxication, allergic reactions, deficiencies, trauma, and physical agents is discussed with regard to the effects on the infant due to prenatal poisoning in the mother. A summary is presented of the effects and symptoms produced as a result of inhaling fumes from various poisons such as: lead, mercury, ethyl alcohol, methyl alcohol, manganese, arsenic, carbon monoxide, and carbon tetrachloride. Tetanus, botulism, and diphtheria tend to produce neurotoxins or endotoxins in the mother which pass into the infant's blood stream and produce irreparable brain damage, often more severe in the child than in the mother. Addiction to the bromides, barbiturates, and narcotics has been reported as a prenatal cause of generalized cerebral atrophy and mental retardation, as has poisoning with quinines, salicylates, benzol, and benzine compounds.

61706
AUTHORS: Carter, Charles H.
ADDRESS: Sunland Hospital, Orlando, Florida
TITLE: Mental retardation associated with postnatal poisons, toxins, endotoxins, deficiencies and allergic reactions.
SOURCE: In: Carter, C., Handbook of mental retardation syndromes.
SOURCEID: 2nd ed. Springfield, Illinois, Charles C Thomas, 1970. 285 p. (p. 41-47).

Mental retardation associated with postnatal poisons, toxins, endotoxins, deficiencies and allergic reactions is discussed with emphasis on immunization reactions. Postimmunization encephalopathy has been reported often and is being reported much more frequently. This is characterized by a perfectly normal child who receives a

routine DPT immunization. In 2 to 48 hours, the child begins to run a temperature, has convulsions, becomes acutely ill, and often shows signs of central nervous system irritation, coma and convulsions. Frequently, the child does not respond quickly and remains critically ill for some time. Recovery is often slow and incomplete and brain damage is extensive. This condition appears to be unpredictable and, so far, has not been preventable.

62351
AUTHORS: Cancro, Robert; Wilder, Russell.
ADDRESS: Department of Psychiatry, University of Connecticut, 2 Holcomb Street, Hartford, Connecticut 06112
TITLE: A mechanism of sudden death in chlorpromazine therapy.
SOURCE: American Journal of Psychiatry.
SOURCEID: 127(3):368-371, 1970.

The mechanism of sudden death encountered in chlorpromazine therapy is discussed. A case report is presented with the belief that it offers some insight into the reason for the increasing number of sudden deaths in psychotic patients taking phenothiazines. It is felt that a combination of vasodilation with the hypotensive effects of phenothiazines may explain some of the unexpected deaths. It is strongly recommended that attempts to determine those patients most likely to show a severe hypotensive reaction to drugs like chlorpromazine be carried out on all patients prior to administration of such drugs. The risk of sudden, unexpected death might be reduced appreciably with simple precautions such as this. 16 references. (Journal abstract modified)

62737
AUTHORS: Moore, Matthew T.; Book, M. Harold.
ADDRESS: 1815 Delancey Place, Philadelphia, Pennsylvania 19103
TITLE: Sudden death in phenothiazine therapy: a clinicopathologic study of 12 cases.
SOURCE: Psychiatric Quarterly.
SOURCEID: 44(3):389-402, 1970.

A study was made of 12 specifically selected cases of sudden death occuring during treatment with phenothiazine drugs to determine whether tissue alterations were present resulting from the action of the drugs used which might account for the deaths. Tissue study revealed no demonstrable morphological changes which could account for the predisposition to the death of the patients. Hence the significance of these cases is enhanced with respect to the relationship of drug cortical and subcortical neuronal components of the brain, nor were the conducting pathways of the white matter affected. Because of the question regarding the possible role of autonomic derangement with cardiovascular, respiratory or deglutitive dysfunction leading to these deaths, special attention was given to the appearance of the cellular constituents of the hypothalamus, reticular activating substance and nuclei of the brain stem. All of these structures were found to be normal. The failure to observe significant changes in the parenchyma or vessels of the brain does not imply that some biochemical or morphological change may not exist which escapes the purview of the light microscope or the staining techniques employed in this study. Some suggested mechanisms of death discussed are cardiovascular, asphyxia, depression of autonomic regulation, autoimmune reaction, and genetic susceptibility. 21 references.

63277
AUTHORS: Ianzito, Benjamin M.
ADDRESS: Washington University School of Medicine, St. Louis, Missouri 63110
TITLE: Attempted suicide by drug ingestion.
SOURCE: Diseases of the Nervous System.
SOURCEID: 31(7):453-458, 1970.

15 TOXICOLOGY AND SIDE EFFECTS

Drug ingestion is the most commonly employed method of suicide in the U. S. today and constitutes a considerable percentage of general hospital admissions. An investigation of factors related to intentional drug overdosage involved retrospective analysis of records of 95 patients admitted to a general hospital. Demographic and other parameters were presented. The typical drug ingester was found to be a married housewife in her twenties with problems of interpersonal relations and a prior psychiatric history who employed one of the commonly prescribed sedative hypnotic medications. There was, however, considerable variation from this typical picture in all respects. A discussion of the implications of a suicide attempt by drug ingestion was presented with emphasis on the difficulties of determining intent. Suggestions were made regarding immediate medical management, and guidelines were presented for psychiatric evaluation of the patient upon recovery from the effects of the drug. 13 references. (Author abstract modified)

59728
AUTHORS: Howard, J. Campbell, Jr.
ADDRESS: St. Barnabas Hospital, Bronx, New York
TITLE: Psychotropic agents in the coronary patient: what and when.
SOURCE: Psychosomatics.
SOURCEID: 11(4)335-338, 1970.

The use of psychotropic agents to relieve emotional stress during clinical treatment of coronary artery disease is discussed. Specific situations are identified in which the administration of minor and major tranquilizers, sedatives, and antidepressants, or combinations of these drugs is beneficial. While such treatment is particularly effective in certain phases or stages of coronary artery disease in patients with psychosomatic tendencies, it is emphasized that even the best psychotropic requires the appropriate psychotherapy of a good patient - physician relationship. 14 references.

60862
AUTHORS: Guy, William; Bonato, Roland S.; Cleary, Patricia; Yang, Kenneth; Levine, Jerome.
ADDRESS: Biometric Laboratory, George Washington University, 1145 19th Street, N. W., Room 618, Washington, D. C. 20037
TITLE: A data processing system for psychotropic drug evaluation.
SOURCE: Archives of General Psychiatry.
SOURCEID: 23(5):454-463, 1970.

A data processing system, the Biometric Laboratory information processing system (BLIPS), developed for the purpose of displaying and analyzing data generated from psychotropic drug trials, has been presented. To increase comparability across trials, the system employs a standard assessment battery and produces standard--but comprehensive--data output. Theselection of drugs, populations, and research procedures, however, are wholly determined by the individual investigator. A minimum of constraints are imposed upon the users by the system, thereby permitting wide latitude in the choice of research designs. Nonstandard assessment data can also be processed within the system. The data analyses provided for a given study are completely nonjudgmental and the final appraisal of the results resides with the investigator. While the service aspects of the system are of immediate benefit, it is felt that the establishment of a comprehensive data bank will prove to be of even greater value. The services of BLIPS are available gratis to individual investigators conducting clinical psychotropic drug trials. 29 references. (Author abstract)

63208
AUTHORS: Heitzman, Martin; Johnston, Gerald S.
ADDRESS: Divisions of Neurology and Nuclear Medicine, Walter Reed General Hospital, Washington, D. C. 20012
TITLE: Radioactive bromide in the diagnosis of central nervous system disease.
SOURCE: Diseases of the Nervous System.
SOURCEID: 31(7):483-486, 1970.

Radioactive bromide has been used in the past to diagnose neurological disease. In experiments using sodium 82bromide (Na 82Br), confirmation of the previous findings was sought and the bromide partition ratio was assessed as a means of ruling out the presence of tuberculosis meningitis or of neurosyphilis in patients where either is a consideration. A blood serum/cerebrospinal fluid (CSF) bromide partition ratio was determined on 24 patients with central nervous system (CNS) disorders. The test is a simple one when orally administered Na 82Br is used and the serum and CSF are then collected for radioactivity assay at 24 hours. Five of the patients presented with possible neurosyphilis and 1 with possible

tuberculosis meningitis. The bromide partition ratio was helpful in determining the diagnosis in each of these patients and their case histories are summarized. In the 18 other patients, a variety of CNS conditions, including head injury, multiple sclerosis, Guillain-Barre syndrome, chorioretinitis, epilepsy, pituitary tumor and herniated nucleus pulposus, the bromide partition was normal. The specificity of this test for active neurosyphilis and for tuberculous meningitis gives it value in ruling out these entities as well as in confirming their presence. 8 references. (Author abstract modified)

58973
AUTHORS: Schultes, Richard E.
ADDRESS: Botanical Museum of Harvard University, Cambridge, Mass.
TITLE: The plant kingdom and hallucinogens (Part III).
SOURCE: Bulletin on Narcotics.
SOURCEID: 22(1):25-53, 1970.

The number of plants known to contain hallucinogens is insignificantly small compared with the total number of species. There are probably many more with active constituents as yet undiscovered. Ethnobotanical investigation during the past 30 to 40 years has uncovered many plants still employed in primitive societies for their psychotomimetic properties. Because of accelerated development among primitive cultures, it is important to salvage native botanical lore, especially that relating to folk medicine, before it is lost. Plants containing hallucinogens are described botanically, together with descriptions of their history, source, active principle (when known) and manner of use in primitive rites. The 9 families discussed are: Caltrop (Peganum Harmala); Malpighia (Banisteriopsis species, Tetrapteris methystica); Cactus (Lophophora Williamsii, Trichocereus Pachanoi); Loosestrife (Heimia salicifolia); Dogbane (Tabernanthe Iboga, Prestonia amazonica); morning glory (Ipomoea violacea, Rivea corymbosa); mint (Lagochilus inebrains, Salvia divinorum, Coleus species); potato (Atropa, Hyoscyamus, Mandragora, Brunfelsia and Datura species, Methysticodendron Amesianum, Latua pubiflora); and composite family (Calea Zacatechichi). 197 references.

59038
AUTHORS: Guensberger, E.; Tesarova, O.
ADDRESS: Psychiatrische Univ.-Klinik, Bratislava, CSSR
TRTITLE: /Psychopathological analysis of the process of sedation./
TITLE: Der Sedierungsprozess im Lichte der psychopathologischen Betrachtungsweise.
SOURCE: International Pharmacopsychiatry (Basel).
SOURCEID: 3(2):119-129, 1970.

A psychopathological analysis of the process of sedation is presented. The concept of sedation requires a new formulation since it no longer covers the effect given by the traditional definition. It seems that in a new sense sedation is contained in many neuroleptic drugs. A number of clinical cases, treated and observed over a long period, serve to illustrate this concept. Thus, together with sedation, several other changes take place, such as a state of lability associated with the psychopathological symptoms. It is suggested that, in addition to the characterization of sedation as a process of inhibition, a psychopathological description is also required. 21 references. (author abstract modified)

59039
AUTHORS: Barahona-Fernandes, H. J.
ADDRESS: Clinique de psychologie medicale et psychiatrie, Faculte de medecine, Universite de Lisbonne, Lisbon, Portugal
TRTITLE: /Psychopharmacodynamics of neuroleptics. Organization effects of the paranoid syndrome./
TITLE: Psychopharmacodynamie des neuroleptiques. Effets d'organisation sur les syndromes paranoides.
SOURCE: International Pharmacopsychiatry (Basel).
SOURCEID: 3(2):94-118, 1970.

The effect of neuroleptic drugs on paranoid syndromes is described. From the psychopharmacodynamic point of view, 2 groups of effects can be distinguished: direct activating or inactivating effects upon the basic functions (endothymic-vital level), and mediated and indirect effects upon the superstructures of the personality. Effects of this sort on the structure of paranoia have been described as a global "organizing" action. They act upon the

different functional systems of the personality, centered on the proprium or self, in its relations with the self, with others, and with the world, which have all undergone paranoid alteration. These effects differ qualitatively from a simple neuroleptic effect. This psychopharmacodynamic perspective enables us to integrate and to understand the complementary action of sociotherapy and psychotherapy, combined with drug therapy. 12 references. (author abstract modified)

59072
AUTHORS: Kumar, R.; Stolerman, I. P.; Steinberg, Hannah.
ADDRESS: Dept. of Pharmacology, University College, London, England
TITLE: Psychopharmacology.
SOURCE: In: Mussen, P., Annual review of psychology.
SOURCEID: Palo Alto, Calif., Annual Reviews, 1970. 674 p. Vol. 21. (p. 595-628).

An overview of psychopharmacology points out that in spite of the relative sophistication of electrophysiological, biochemical, and pharmacological techniques, the eventual value of a particular manipulation or treatment is ultimately judged in behavioral terms, animal or human. One school of thought has emphasized the importance of overt patterns of behavior as critical determinants of the effects of drugs, and an extreme view is that of Dews: "Motivation, emotion, learning and other factors that people have considered targets of selective drug action all seemed to be overshadowed in importance as determinants of drug action by the pattern of manifest behavior." Gollub & Brady questioned the efficacy of "psychopharmacological approaches which emphasize a search for drugs expected to have selective effects upon such inadequately specified processes as 'fear', 'anxiety', 'conflict', and the like. To the extent that such terms fail to specify operationally unified behavioral processes and depend for definition upon a broad range of environmental and physiological measurement conditions, no simple psychopharmacological relationships are likely to be found." Research on functions such as hunger and thirst, exploratory behavior, drugs as reinforcers, learning and memory trials, and individual reactions to drugs are reviewed. 317 references.

60264
AUTHORS: Schou, M.; Baastrup, P. C.; Grof, P.; Weis, P.; Angst, J.
ADDRESS: Psychopharmacology Research Unit, Aarhus University Psychiatric Institute, 8240 Risskov, Aarhus, Denmark
TITLE: Pharmacological and clincial problems of lithium prophylaxis.
SOURCE: British Journal of Psychiatry (London).
SOURCEID: 116(535):615-619, 1970.

Pharmacological and clinical problems of lithium prophylaxis are reviewed to assist in a clearer understanding which is necessary for balanced evaluation and utilization of this drug. The prophylactic use of lithium requires sufficiently weightly indication. As with any othertreatment, the disadvantages and risks of giving lithium must be weighed against the disadvantages and risks of not giving it. It is important that the patients are motivated and well instructed, and patients and doctors must be prepared to observe the practical measures necessary for a successful outcome of the treatment. 33 references. (Author abstract modified)

60728
AUTHORS: Dorfman, Wilfred.
ADDRESS: Brunswick, Hospital Center, Amityville, L. I., New York
TITLE: Recognition and management of depression.
SOURCE: Psychosomatics.
SOURCEID: 11(5):416-419, 1970.

Capsule descriptions of several different types of neurotic and psychotic depression are offered. The etiology of depression in

organic illness is discussed; biochemical and neurophysiological factors are surveyed briefly. The need for a comprehensive clinical evaluation of depression, probing its depth, length, differential diagnosis and target symptoms, is stressed. A consideration of therapy outlines the pitfalls and potentialities of several classes of drugs such as anxiolytic agents, antidepressants, neuroleptics, psychomotor stimulants used in depressive conditions. 9 references.

60729
AUTHORS: Chanas, Peter J.
ADDRESS: International Division, A. H. Robins, Co., Richmond, Virginia
TITLE: Problems regarding the introduction of a psychopharmaceutical agent in international markets.
SOURCE: Psychosomatics.
SOURCEID: 11(5):530-531, 1970.

A speech briefly surveying procedures for introducing new psychopharmaceutical agents outside the USA terms a proposal to diminish patent protection on new drug inventions dangerous and unwarranted. Protection for drug invention is cited as particularly important in the developing nations.

63568
AUTHORS: Alpert, Murray.
ADDRESS: Department of Psychiatry, New York University Medical School, New York, New York.
TITLE: Television tape for evaluation of treatment response.
SOURCE: Psychosomatics.
SOURCEID: 11(5):467-469, 1970.

Techniques for improving the methods for evaluating mental patients followed on the effective therapies, primarily the pharmacotherapies are explored. Emphasis is placed on increased quantification and objectivity. Recordings and closed circuit television can be useful as a methodological refinement for double-blind studies of treatment response. Raters tend to rate more moderately and there is higher reliability among raters. The ability to detect change with treatment is facilitated.

63590
AUTHORS: Freyre, Alfred Vidal,; Flichman, J. C.
ADDRESS: Buenos Aires, Argentina.
TITLE: Spasmophilia caused by magnesium deficiency.
SOURCE: Psychosomatics.
SOURCEID: 11(5):500-501, 1970.

Spasmophilia has eventually been identified with the most frequent neuromuscular form of primary magnesium deficit after having been most often equated with idiopathic latent tetany or normocalcemic constitutional tetany. Magnesium sulfate has been used in the treatment of spasmophillia or infantile tetany and for children with convulsions. The history is reviewed briefly, symptomatology of spasmophilia and the metabolism of magnesium are discussed, and the usefulness of plasma magnesium determination and electroencephalograms in following patients under treatment is described. Results of magnesium sulfate therapy for several members of one family with various mental and nervous symptoms are presented. 13 references.

17 MISCELLANEOUS

different functional systems of the personality, centered on the [illegible]

[illegible]

AUTHOR: Moser, R.; [illegible]

[illegible]

Separate descriptions of several different kinds of neurotic and psychotic depression are offered. The etiology of depression is